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Original Articles.

AN EXAMINATION INTO THE CLAIMS OF THE RED-LIGHT TREATMENT OF SMALLPOX.

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PHILADELPHIA.

In a small book on "Phototherapy," written by Dr. Niels R. Finsen of Copenhagen, in 1901, he says: "In July, 1893, I proposed a new treatment for smallpox, which consists in placing the patients in rooms from which the chemical rays of the solar spectrum are excluded by interposing red glass or thick red cloth. The result of this method of treatment is that the vesicles, as a rule, do not enter on the stage of suppuration, and that the patients get well with no scars at all, or at most with extremely slight scarring." These claims, if correct, would prove the method to be of inestimable value, not only in preventing the disfigurement occasioned by smallpox, but in saving life, for, as is well known, death in smallpox nearly always results from the variolous septicemia caused by the cutaneous suppuration.

The use of red light in the treatment of smallpox dates back many years, and Finsen's statement, "I proposed a new treatment," is misleading, although I presume unintentionally so, for later he admits that his studies were influenced by the observation of others who had treated smallpox by the exclusion of daylight. The red-light treatment of smallpox was first employed in the fourteenth century by John of Gaddesden, who, though court physician, is said to have been "a very sad knave." Gregory wrote in 1843, "What think you of a prince of royal blood of England (John, the son of Edward the Second) being treated for smallpox by being put into a bed surrounded with red hangings, covered with red blankets and a red counterpane, gargling his throat with mulberry wine and sucking the red juice of pomegranates? Yet this was the boasted prescription of John of Gaddesden, who took no small credit to himself for bringing his royal patient safely through the disease."

Black[1] in 1867 revived the question of the influence of light in smallpox and claimed that the complete exclusion of light even in unvaccinated cases of smallpox effectually prevented the pitting of the face.

A few years later, in 1871, Waters[2] declared that "if daylight is entirely excluded from the patient, there is no doubt the disease is less severe." Barlow[3] stated that a marked contrast resulted in the two sides of a patient's face, one-half of which had been covered with a colored gelatin to exclude the actinic rays of the sun, while the other half was left exposed.

1. Lancet, June 29, 1867.
2. Lancet, Feb. 4, 1871.
3. Lancet, July 1, 1871.

FINSEN'S RED-LIGHT THEORY.

Finsen has further elaborated the red-light treatment of smallpox, although it is said that he has not, or at any rate had not at the time he promulgated the theory, seen a single case of smallpox. He explains the action of red light on the principle enunciated in the following query: "What is more natural than that the chemical rays should exert an injurious influence on a diseased skin, when we see such severe inflammation produced by their influence on the healthy skin?" It has been conclusively established that sunburn results not from exposure to solar heat, but from the action of the chemical rays of sunlight. The use of red panes of glass or red curtains in a room, as urged by Finsen, excludes the chemical rays. It is further stated that in smallpox "the face and the hands, the parts of the body exposed to light, are the seats of the deepest and most confluent scars."

OBJECTIONS TO THE FINSEN THEORY.

There are numerous facts which militate against the correctness of Finsen's view. While prolonged exposure to the direct solar rays, particularly in the hot months of the year, commonly induces inflammatory reaction, yet there is no evidence of such noxious influence by ordinary exposure to diffuse daylight.

Smallpox is essentially a cold weather disease, and the months in which it flourishes most are characterized by cloudy skies and the presence of but little direct sunlight. It is difficult to believe that ordinary exposure in the sick room to diffuse winter daylight could result in any irritative action on the skin. If the theory were correct, summer smallpox should be more severe than the winter type, for the actinic rays of the sun are stronger in the former season. If there is any difference in the character of winter and summer smallpox it is milder in the latter, for during this season the epidemic influence is usually absent.

The predilection of the smallpox eruption for the face and extremities is not because these parts are exposed to light, for it would be difficult to explain on this theory the copious involvement of the feet, which are often attacked as severely as the hands.

There is every reason to believe that the preferential election of the face and extremities is due to the greater vascularity of these parts. That this is true is evidenced by the oft-noted observation that increased vascularity of any portion of the cutaneous surface from the application of an irritant determines the development of lesions in such areas. Time and time again have we observed the use of a mustard plaster, tincture of iodin, kerosene, or the presence of abrasions or sunburn on the

skin excite confluence of variolous lesions in the irritated or congested portion of integment. (See Figs. 1 and 2.) But it is here to be noted, and the fact has an important bearing on Finsen's theory, that if irritation of the skin takes place after the appearance of the variolous eruption, it does not increase the number of lesions nor otherwise unfavorably influence the eruption. The augmentation of the lesions only occurs when the skin is congested prior to the appearance of the exanthem. For example, the tincture of iodin applied to the skin before the eruption has appeared, by congesting the skin, attracts lesions to the area painted. We have convinced ourselves that no influence of this kind operates after the eruption is out for we have used iodin painted on the face in hundreds of cases.

It appears reasonable, therefore, that the alleged benefit resulting from the exclusion of the actinic or chemical rays of sunlight is not explicable on the grounds maintained by Finsen, for, inasmuch as irritation of the skin after the appearance of the exanthem does not unfavorably influence the eruption, it can not be held that the prevention of sunlight irritation favorably modifies it.

Finsen expresses the view that many remedies which have been claimed to exert a favorable influence on the smallpox eruption have done so through their ability to exclude the solar rays. He says: "The tincture of iodin,

Fig. 1.—Confluence of variolous lesions caused by the application of iodin for a sprain *before* the appearance of the eruption.

which stains the skin yellow, protects it specially from the chemical rays. The solution of nitrate of silver also absorbs these rays and later stains the skin black, by which the rays are excluded."

If Finsen's theory concerning smallpox and light were correct the negro ought to suffer much less severely from the disease than his white neighbor; the black man has been given by nature the best possible protection against the injurious influence of the actinic rays of the sun. He has a protective layer of pigment in the epidermis which excludes the chemical rays. Does he suffer as severely from smallpox as the Caucasian? Most writers claim that smallpox is more severe in the negro than in the white race; in our experience, however, comparing the unvaccinated of both races, the mortality has been about the same. The absence of any freedom from pitting on the part of the negro strongly challenges the truth of the light theory. Finsen has admitted that "pigmentation constitutes a defense against the effects of the chemical rays," and has proved the truth of this assertion by the following experiment on himself.

"To imitate the color of the negro's skin, I traced in India ink on my forearm a band about two inches wide, and then exposed it for three hours to a very hot sun. I then removed the black color, and the skin under it appeared perfectly white and normal, while that on each side was red." Some hours later the contrast between the protected and the exposed portion was still greater as the latter became swollen and inflamed.

One more theoretical consideration. It does not appear plausible that the exclusion from the skin of the chemical solar rays (those rays which exert a bactericidal influence) would be advantageous in dealing with a disease in which there are thousands of small microbe-containing abscesses in the skin.

THE QUESTION OF PITTING IN SMALLPOX.

Pitting is due to destruction of the papillary layer of the true skin by the suppuration of the variolous pocks. The more deeply the skin is attacked the greater will be the scarring. The occurrence or prevention of scarring is less determined by any special method of treatment than by the vaccinal condition of the patient and the severity of the disease. The type of smallpox has been very considerably changed since the introduction of vac-

Fig. 2.—Confluence of variolous lesions on the forearms due to sunburn a week or so *before* the patient fell ill with smallpox.

cination. Where this agent does not confer complete immunity against variolous infection, it is still quite sure to exercise a more or less marked modifying influence over the disease. Mild smallpox is nearly always characterized by superficially seated lesions. During 1902-03 there were treated at the Municipal Hospital of Philadelphia in the neighborhood of 2,300 cases of smallpox, of whom one-half were not vaccinated, the other half consisting of adults who had not been vaccinated since infancy. In the vast majority of instances the once-vaccinated cases suffered mild attacks and were not scarred. Indeed, at least 60 per cent. of the patients discharged had no indelible scars. The epidemic was mild compared with the severe epidemics of 1871 and 1881, the death rate being about 18 per cent. The most important treatment of smallpox for the prevention of scarring is the prophylactic treatment—vaccination; and yet mild smallpox in unvaccinated persons often runs its course and leaves no scars. This is particularly

true of children in whom the eruption is, as a rule, more superficially situated.

In determining the value of any remedy in the treatment of smallpox, conclusions should be drawn only from its employment in unvaccinated cases. Furthermore, the prevailing type of the epidemic should not be left out of consideration, for it is a well-known fact that a varying percentage of cases recovers in different epidemics. Certain therapeutic procedures employed during mild epidemics may be accorded an entirely undeserved commendation and value. If during the uniquely mild epidemic of smallpox that has been prevailing throughout the United States during the past few years, some special therapeutic agent had been advised and generally used, there would have appeared no more incontrovertible fact in the history of medicine than that this remedy was an invaluable specific in the treatment of smallpox. And yet the mildness of this widespread epidemic with a mortality rate among the vaccinated and unvaccinated of less than 2 per cent. was not influenced to any appreciable extent by any therapeutic measures. Such observations serve to point out the pitfalls into which the ultra-enthusiastic therapeutist may fall.

PRACTICAL RESULTS OF THE RED-LIGHT TREATMENT OF SMALLPOX.

The treatment of smallpox by the exclusion of the chemical rays of the sun has now been tried by a number of physicians, chiefly in Denmark, Sweden and Norway. Practically all of these men have been favorably impressed with the results.

Drs. Lindholm and Svendsen of Bergen, Norway, treated eight patients, four of whom were unvaccinated children. The latter physician says: "The period of suppuration, the most dangerous and most painful stage of smallpox, did not appear, there was no elevation of temperature and no edema. . . . . The hideous scars were avoided."

Professor Feilberg of Copenhagen employed the treatment in eleven patients. There was no secondary fever and in all the patients the vesicles (?) began to dry up from the ninth to the eleventh day. "In every instance the patient left the hospital with pigmented or hyperemic spots, but without loss of substance of the skin."

Dr. Strangaard of Denmark treated four cases of variola by this method, and stated that he had a "very clear impression that this treatment exercised a favorable influence on the disease."

Dr. Benckert of Gothenberg, Sweden, treated 16 cases of smallpox, 11 of variola vera and 5 of varioloid with red light. Three died, one from puerperal infection, one from hemorrhagic smallpox and one from the fever of suppuration. Dr. Benckert regarded the results in grave cases as surprisingly favorable; "suppuration is usually abolished; scars are extremely rare and the duration of the disease is shorter."

Dr. Mygind of Denmark employed red light in 22 cases of smallpox, of which 12 were variola vera and 10 varioloid. "All left the hospital (save one fatal case admitted late) without loss of substance, but several hyperemic spots."

Dr. Abel of Bergen, Norway, used red light in 23 cases of smallpox, 8 of which were "very severe." All the patients recovered; suppuration did not occur at all, except in one case admitted late. "Even in the patient admitted with full suppuration the favorable effect of the treatment was immediately visible. From the next day the fever diminished and the irritation of the pustules lessened."

As to scars, Dr. Abel thinks that he has not been so successful as other observers. A relatively great number of his patients presented superficial cutaneous changes, especially on the forehead and nose; the scars, however, did not in any way resemble those which are commonly observed. They looked rather as if they had been produced by scratching or some accidental cause.[4]

Dr. Backman treated "62 severe" cases at the fever hospital of Koliikomaki; of this number "three adults died, all of pneumonia, and four children" on the third, fifth and tenth day after admission. "Generally the suppurative period passed off quickly and easily, the vesicles dried up sooner than usual and left no scar at all."

This author has also employed this method of treatment in scarlet fever and measles and has "found the method active, the course of the disease becoming milder and shorter."

Finsen in summing up these cases says that out of a total of 140 to 150 cases of smallpox in one case only (that of Dr. Benckert) was the method inefficacious.

Juhel-Renoy of Paris has not obtained such favorable results as the above quoted physicians. He believes that suppuration and scarring are not prevented but lessened by this procedure.

PERSONAL EXPERIENCE WITH THE RED LIGHT.

During the winter of 1902 Dr. Wm. M. Welch, physician in charge of the Municipal Hospital, and myself fitted up a room for the red-light treatment of smallpox. We regret that we can not recite such results as are quoted above. Although our experience is limited to but two cases, the results were such as to destroy any confidence in this measure that we might have possessed. Our red room was complete in its appointments. The window panes were of a ruby red color, the gas jet at night was surrounded by a red globe, the walls of the room were painted deep red, and a red curtain covered the inner of two doors so as to completely exclude the light of day. Two unvaccinated young men (one 16 years of age and the other 20), who started with profuse eruptions, were placed in this room about the third day of the eruption, before the lesions had become frankly vesicular. The course which the disease pursued in both cases was in no wise different from that seen in patients treated in the regular wards. The pustules filled up and became confluent, the secondary fever was high and protracted, and the patients markedly delirious. One of the young men, who was a private case and had a special nurse day and night with every possible attention, succumbed to the disease. The other recovered, but with most disfiguring scars. Owing to the discouraging results obtained in these two cases, and to the fact that the location of the red-light room made the nursing inconvenient, this method of treatment was abandoned.

It will be urged, and with apparent justice, that an experience with two cases should not be cited to offset the results of treatment in 150 cases. It must be remembered, however, that the red-light method failed absolutely to exercise any modifying influence on the disease in these two cases under appropriate conditions. In the 150 patients, nearly all of whom did well, other factors may be accountable for the good showing. What some physicians regard as severe smallpox, others look on as cases of average or moderate severity. Photograph 3 represents a patient treated at the Municipal Hospital in 1899. Many physicians would regard such a case as one of great severity; yet the eruption was

4. Quoted from Finsen, Phototherapy, p. 32.

superficially situated, the patient was never dangerously ill, and, indeed, made a good recovery without any permanent pitting.

Several photographs of patients treated with red light, who recovered with no scarring or only insignificant scars, published in Finsen's book, represent what we in this country would regard as mild and favorable cases, the eruption being on the skin rather than in it.

It must be remembered that Denmark, Sweden and Norway are, with the exception of Germany, the best vaccinated countries of Europe. It is illogical and misleading to definitely attribute favorable results to certain measures employed in the treatment of smallpox in persons once vaccinated. The vast majority of such patients recover without scarring under any treatment and even without any treatment. Again, in the absence of severe epidemics, and there have been no severe epidemics in the past decade, young children with variola (who are, of course, unvaccinated) usually escape without permanent scarring.

The character of the prevailing form of smallpox, whether mild or severe, is a matter of great importance in determining both mortality and disfigurement. Dur-

Fig. 3.—Example of a case of smallpox with a semi-confluent but superficial eruption in an unvaccinated mulatto, which was not followed by any permanent scarring.

ing the year ending June 30, 1902, there were in the United States 55,857 cases of smallpox with 1,852 deaths (a mortality rate of 3.31 per cent.), and in the year previous 38,506 cases and 689 deaths (a mortality rate of 1.79 per cent.). What would the verdict have been if red light had been used in these cases?

In the February (1903) number of a popular monthly magazine there appeared several articles on "Niels Finsen and His Healing Rays." Among other unwarranted statements concerning the red-light treatment of smallpox appeared the following: "All the world might now have smallpox without fear of disfigurement."

No one would for a moment endeavor to detract from the hard-earned and well-deserved reputation of Finsen, but in the interests of truth such statements as that just quoted should be challenged.

AUTOMOBILE CONJUNCTIVITIS.—Ophthalmologists report many cases of conjunctivitis caused by rapid riding in automobiles without any protection to the eyes. Davis, in the *Postgraduate*, says it is traumatic, due to friction of the wind and chilling of the eyeball. The treatment is to remove the cause, apply 15 minute cold compresses thrice daily and mild astringent washes by an eye cup twice daily.

THREE ESSENTIAL POINTS IN THE OPERATION FOR CICATRICIAL ECTROPIUM.

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Some one once said that blepharoplastic operations look very pretty—on paper—but in reality the results are anything but pleasing and satisfactory. The operations for cicatricial ectropium are not excepted from this criticism. The restored lids often look hideous, and still oftener are again everted after a few weeks or months. But we can overcome these drawbacks if we pay strict attention to the following points:

1. The proper division and fixation of the skin flaps.
2. The selection of the most suitable material for covering the lids.
3. The shortening of the overstretched lid border.

THE PROPER DIVISION AND FIXATION OF THE SKIN FLAPS.

The greatest difficulty we have to contend with in the operations for cicatricial ectropium is the tendency of the shrinking skin flaps to evert the lids again. As all transplanted flaps will undergo more or less shrinkage and as the lid border is least capable of offering any resistance to the traction of the shrinking flap, a re-eversion of some degree is almost inevitable as long as the transplanted flap is attached to the non-resisting lid border on the one side and to the non-yielding skin of the forehead or cheek on the other side, because the lid border is then exposed to the full traction force of the shrinking flap. It is evidently much easier for this flap to pull the lower lid down than to draw the skin of the cheek up, and therefore re-eversion is an especially common occurrence after the operation for ectropium of the lower lid.

It is plain, then, that to prevent the reoccurrence of ectropium we must place the lid border beyond the reach of this traction force. And this can be accomplished if instead of covering the whole wound with one skin flap we make use of two flaps, a small one, which is to cover the lid surface only and which we will call the lid flap, and a large one, which is to be spread over the remaining wound area; and furthermore, if we make provision that the contraction of the larger flap can have no effect on the lid flap.

In ectropium of the upper lid this point is gained if the upper edge of the lid flap (Fig. 1 ba) is firmly attached to the upper border *a* of the tarsus, while its lower edge *b* is united with the free margin. The lid flap is thus anchored above and below to the tarsus and its contraction can not turn the lid over because to do so the traction force must have a fixed point of purchase outside of the lid. The shrinkage of the other skin flap *ac*, which has its point of purchase *c* outside of the lid, however, can not disturb the position of the lid margin, because its pulling force is expended entirely on the upper tarsal border *a;* for, thanks to its firm union with this border, the lid flap can not be stretched or drawn upward by the contraction of the other flap, and as long as the lid flap can not be drawn up the lid border is effectually guarded against re-eversion.

In ectropium of the lower lid, the same principle is adopted for the protection of the lid against the vicious traction of the shrinking skin flap. But we must bear in mind that the tarsus of the lower lid is very small and narrow and that normally the lid skin reaches farther down than the lower border of the tarsus, to a slight furrow a little above the infraorbital margin (Arlt's tarso-malar furrow) where the integument passes from the upright plane of the lid into the sloping surface of

the cheek. This normal boundary line between the lower lid and cheek must be re-established by our division and fixation of the skin flaps; and the lid flap *dg*, therefore, must not be united with the lower border of the tarsus, but fastened to the tarso-orbital fascia (at *g*) in a line a little above the infraorbital margin. As the fascia is, as it were, the anatomical continuation of the tarsus, the lid flap adherent to the surface of the tarsus and fastened to the fascia can not evert the lid. And the shrinkage of the large flap *ge* covering the wound of the cheek, is prevented from pulling on the lid margin and causing re-eversion of the lid, because its traction can not reach beyond the firm union of the lid flap with the fascia. So strong is the resistance of this union that you may draw the skin of the cheek down as much as you please and you will not succeed in everting the lid.

THE SELECTION OF THE MOST SUITABLE MATERIAL FOR SKIN FLAPS.

If it is our ambition to obtain the best possible results in ectropium operations—and nothing less ought to satisfy us—we can not be contented with the mere reposi-

Figure 1.

tion of the lids, but should strive also to restore as much as possible their natural appearance. The lids contribute more to the expression of the eye than the eyeball itself; and the slightest alteration of shape and outline, or the least impediment of motion seriously mars the expression of the face. This is a very important point and should always be taken into account when we choose the material for our flaps. The normal integument of the lids is a thin and delicate skin of such perfect flexibility and adaptability that it allows perfect freedom of motion and accommodates itself readily to the numerous slight changes in contour so characteristic for the various facial expressions. In order, therefore, to gain a perfect cosmetic result we must select as a substitute for the lost lid skin a material which possesses the same qualities; it must be thin, light and adaptable.

It goes without saying that the thick skin of the forehead, temples or cheek does not possess these qualities, and therefore flaps from these regions should not be transplanted on the lids. Besides the transplantation inflicts additional wounds on the face, and I hold we should avoid marring the face by unnecessary scars. The use of Wolfe's flaps taken from the arm avoids this latter objection, but they, too, are usually so thick that, like the pedunculated flaps, they make a heavy, clumsy-looking lid. These two kinds of flaps are as well suited for a substitute of lid skin as shoe leather would be for kid gloves.

A good and suitable material for lid flaps which answers all the requirements is the cicatricial skin usually found in the immediate vicinity of extensive ectropium. I have shown in 1896[1] that this skin can be successfully transplanted and makes a perfect lid skin. In ectropium of the lower lid this cicatricial skin can nearly always be utilized for the lid flap. In ectropium of the upper lid it can sometimes be used when the eyebrows are absent. If on account of the eyebrows the cicatricial skin is not available, a Thiersch graft is the only suitable material. It accommodates itself to the surface of the lid, brings out its contours perfectly and does not in the least interfere with the free movements of the lid.

THE SHORTENING OF THE ELONGATED BORDER OF THE LOWER LID.

As the diameter is shorter than the half circle, so in the case of complete ectropium the free lid margin of the lower lid turned from its almost straight line between the canthi into a long downward curve is elongated a good deal; and after being held in this abnormal state for a

Figure 2.

long while it will not recover its normal length when the lid is replaced. The elongated margin of the lower lid will not closely fit the curvature of the eyeball and will drop away from it, as in senile ectropium. The reposition of the everted lower lid, therefore, can not be perfect and permanent, unless the overstretched lid margin is reduced to its proper length. In several instances I did not do that, because the lid margin appeared to lie in perfect apposition to the globe; but every time I had cause to regret this omission, and had to correct my mistake by a second operation. I therefore regard the shortening of the elongated border of the lower lid a very essential point in the operation for cicatricial ectropium.

And now, after having so strongly emphasized the importance of these several points, I wish to indicate briefly the plan of operation based on the views expressed in the foregoing remarks. As the operation is not alike in details for both lids, I believe it is better for a clear understanding to describe the method for each lid separately.

TECHNIC OF THE OPERATION ON THE UPPER LID.

If the eyebrows are partly absent and there is a good expanse of cicatricial skin above the everted lid, we cut from this cicatricial skin the lid flap in the following manner:[2]

1. THE JOURNAL A. M. A., Sept. 19, 1896; and Archives of Ophthalm., vol. xxv, No. 3.
2. Archives of Ophthalm., vol. xxv.

"From a point (a Fig. 2) about 5 millimeters above the inner canthus an incision is made obliquely upwards into the cicatricial skin and then continued in a curve downwards to a point *c* about 5 millimeters from the external canthus. This incision outlines a large flap *abc* which is carefully dissected up from the underlying scar tissue as far as the lid borders. The lid is then released by dissection from all cicatricial connections until it can be easily turned down into its normal position; and now the edge (Fig. 3 ac) of the lid flap is fastened by silk sutures to the upper border of the tarsus."

If, however, on account of the eyebrows the lid flap can not be taken from the cicatricial skin, we make an

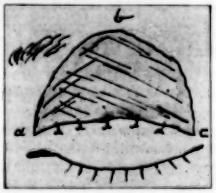

Figure 3.

incision along the lid border and after the reposition of the lid cut from the arm a Thiersch graft of suitable size, which is transported on the razor directly to the lid, spread out over its surface and fastened by fine silk sutures to the upper tarsal border as well as to the wound edge of the free border. These sutures must be inserted with great care to make sure the edges of the flap do not roll in; their application therefore is very tedious work; but the time is well spent, because the graft thus fixed

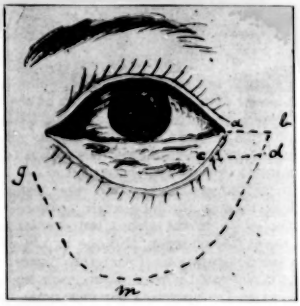

Figure 4.

is positively secured against being shifted from its place by any movement of the lid or by any accidental displacement of the dressings.

After the lid flap is fastened (as in Fig. 3) the lid is drawn down as far as possible and held in this position by two ligatures passed through the free border and fixed on the cheek by plaster strips. This is done for the purpose of immobilizing the lid during the healing process and also for enlarging the wound (abc) above the lid to its fullest capacity. Over this wound a Thiersch graft is spread out so that its edges lap over the surrounding skin; no sutures are used.

TECHNIC OF THE OPERATION ON THE LOWER LID.

Here the lid flap can always be procured from the cicatricial skin; but as this skin shrinks considerably as soon as it is dissected up we must take good care to cut the flap of very liberal dimensions. We begin the incision one centimeter below the inner canthus (Fig. 4 *g*), carry it obliquely down into the cheek to a point *m* 2 to 3 centimeters below the center of the everted lid margin; then we continue it in an oblique direction upwards and outwards to a point *b* even with and one centimeter from the outer canthus. This large flap *gmb* is then dissected up from the underlying scar tissue and all cicatricial strands and bands are cut until the lid is freed and can be turned up.

The next step is to reduce the overstretched lid margin to its proper length by removing a suitable piece of the lid (except the conjunctiva) near the outer canthus by the following incisions (Fig. 4): from the canthus *a* transversely to *b;* from *a* to *c* along the lid margin, and from *c* to *d* through the flap; the edges *cd* and *ab* are then united by two silk sutures. Now the lid is drawn up as far as possible

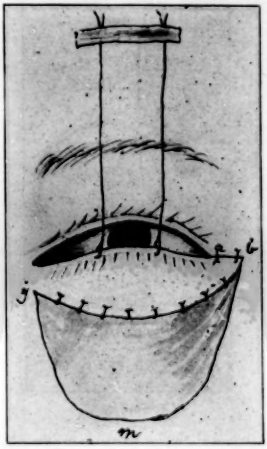

Figure 5.

and held in this position by two silk ligatures passed through the free margin and fastened on the forehead by adhesive plaster or collodion. This done the edge of the lid flap is anchored to the tarso-orbital fascia by silk sutures (Fig. 5). The lid flap should be evenly spread out, so as to be in perfect contact with the wound surface; but we must carefully avoid any undue stretching; and should we find that the flap is a trifle short and would be stretched if the sutures are placed very near the infra-orbital margin, it is better to put them through the fascia 1 or 2 millimeters higher up. Finally, the wound surface *gmb* below is covered with a Thiersch graft, the edges of which are made to lap over the surrounding skin. No sutures.

AFTER TREATMENT.

The after treatment is the same for the upper and lower lid. Strips of gutta percha protective are laid over the flaps, and on these strips a gauze compress wrung out of warm boric acid solution; this is covered by a large

square piece of protective to prevent evaporation and over this is put a layer of cotton to maintain uniform warmth. This whole dressing is secured in place by a roller bandage and best left undisturbed for three days. Then it is carefully removed; the flaps are thoroughly cleansed, the overlapping edges of the large flap are trimmed off and a new dressing is put on which is changed every day or two, as circumstances may require. At the end of the first week the ligatures and the sutures of the lid flap may be removed; during the second week some simple ointment (like borated vaseline) is applied daily on the flaps, and after this period no further treatment is required.

THE OBJECTIONS TO PRESCRIBING MEDICINES OF UNKNOWN COMPOSITION.

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If the proposition contained in the foregoing terms were always presented so clearly and so directly there would be little room for discussion, as I think it will be generally conceded that the fact of the composition of a medicine being unknown would constitute in itself the most serious objection to its prescription by physicians. Nevertheless, I fear that many prescriptions are written daily for preparations concerning whose composition the prescriber is not in possession of such fulness of knowledge as is requisite for the most intelligent and most successful employment of the articles of the materia medica.

The modern manufacturing pharmacist has exhibited marked skill and ingenuity, worthy of a better cause, in concealing ignorance behind the mask of false knowledge. It has become the vogue for this enterprising individual, firm or corporation, to put forth products to which he gives fanciful names, for which he claims elaborately described marvelous effects, and of which he states the composition in accordance with his own views and purposes. He has a predilection for describing his product as a synthetic preparation with a formula comprising C,H,N, and O in startling proportions, and he gives it an almost interminable and unpronounceable chemical name, but is good enough to coin a descriptive and copyrighted substitute. Sometimes it is, at other times it is not, a coal-tar product, according to personal caprice. If the preparation be a mixture, only its constitutents may be named, and sometimes not all of these, the proportions being omitted. In these and devious other ways a pretence of publicity is made, by which the careless and indifferent may be readily if not willingly deceived. Samples are distributed generously to physicians, who read with avidity the accompanying so-called literature skilfully devised by the manufacturer, and it is not long before testimonials indorsing the new preparation are forthcoming, and clinical reports of cases treated with the new preparation appear in certain medical journals. Sometimes the aid of the physician is further invoked by securing him as a stockholder or officer in the manufacturing concern, and his interests may be further looked after in the way of commissions or concessions in return for prescribing the remedy. The preparation is now launched on a career of success and prosperity, which may be of longer or shorter duration in accordance with a variety of conditions. Mayhap when the profession has done all in its power to contribute to this end, direct appeals to the laity, supported by the indorsement of "the medical faculty," are made to the public through the advertising columns of the newspapers and the dead walls and spaces of the city and the country.

The practice of medicine, though art, is based on scientific principles, and it will be successful in proportion to the fulness and precision of the knowledge underlying it. If the identity of a medicine is not known through its composition the prescriber has no assurance that he will always receive the same article, but, on the contrary, there is good reason for believing that he will get something different, in quantity or in quality, at different times. In this way he is liable to do discredit to his art, and injury, positive or negative, to his patient. Additionally, injustice is done the patient in that he is compelled to pay a higher price for medicines of concealed or suppressed composition than he would if these were prescribed in the regular way. The practitioner who permits himself to fall into the habit of prescribing ready-made preparations surrenders thereby originality and independence in his therapeutics, and fails to make progress in his art. The manufacture and the use of secret preparations have also a blighting effect on legitimate pharmacy. Finally, after all has been said on both sides of the question, if there are two sides, there remains the practical argument that the prescription of medicines of unknown composition is unnecessary, as all that can be accomplished with them, barring the potent influence of secrecy, can be brought about as well if not better by means of medicines of known composition.

From the foregoing considerations it must be clear that the prescription of medicines of unknown or concealed composition is unscientific, unprofessional, unfair if not prejudicial to the sick, unprogressive and unstimulating and, most of all, unnecessary.

The remedy for the existing state of affairs is in the hands of the medical profession. The manufacturing pharmacists will not make preparations that they can not sell, and if physicians will not permit the creation of an artificial demand for illegitimate preparations, and will cease to prescribe them, the manufacturers will soon discontinue their production. To this end it is the duty of all medical men having the interests of their profession and their patients at heart to confine themselves to the employment only of such drugs or combinations of drugs whose composition is of public knowledge, and further, is vouched for by some recognized authority, official or otherwise, such as the Pharmacopeia, the Dispensatory and the Formulary; or, in lieu of such indorsement, in the intervals between successive revisions, is given authentic publicity by investigators of acknowledged standing and competency through legitimate and recognized channels, such as the professional journals and independent publications. Above all things, the so-called literature of the manufacturing pharmacist and the reprints of articles from publications of questionable character should be viewed with suspicion.

HABITS.—A cheerful habit of mind is like a fountain of youth to the body. Worry kills as surely as does arsenic, but steady, moderate work is a prophylactic against many of the ills to which flesh is heir. The greatest brain workers have generally been long-lived (as witness Gladstone and Bismarck), provided that they did not neglect the laws of hygiene and the natural demands of the body. The physician's irregular hours for eating and sleeping tend to disorder his faculties, depress his vitality and tempt to the use of drugs whose fatal allurements he knows best of all.—*Denver Medical Times.*

A NEW METHOD OF SHORTENING THE ROUND LIGAMENTS INTRAPERITONEALLY FOR RETROVERSION.

HENRY T. BYFORD, M.D.
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A new era in the treatment of retroversion of the uterus began with the introduction of Alexander's operation. Women had been until then worried with pessaries to hold the uterus in place, and with douches to keep the pessaries clean, yet without being cured.

Abdominal suspension has occupied the attention of the profession considerably in the meantime, but it

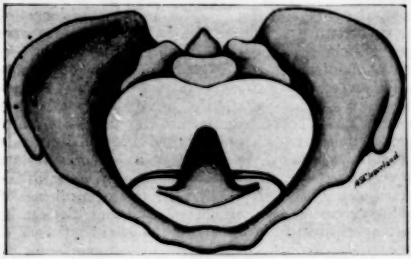

Fig. 1.—Approximately normal round ligaments.

has not proven a satisfactory remedy, and is being used less than formerly.

Intraperitoneal shortening of the round ligaments has become an acceptable substitute in cases in which it is found necessary or advisable to open the peritoneal cavity, for in such cases the ligaments are accessible without making the additional inguinal incision, and thus with less trauma.

W. Gill Wylie made a backward fold or loop in the ligament and sewed together the edges of the fold, and

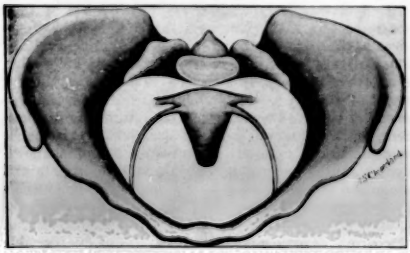

Fig. 2.—Relaxed round ligaments.

thus obtained a fair degree of success in holding the uterus in place. A. Palmer Dudley folds the ligament anteriorly and sutures the end of the loop to the anterior surface of the uterus. M. D. Mann folds the ligament somewhat in the shape of a capital letter N and stitches the edges together, thus securing an extensive adhesion of folded ligament. Other methods have been devised, such as A. H. Ferguson's, George H. Noble's, etc., which I have no time to describe.

I wish, however, at the risk of still farther complicating an already complicated subject, to add another method or, rather, a modification of those already practiced.

It consists in folding the ligaments anteriorly (Figs. 3 and 4), according to Dudley, but in stitching the loop to the abdominal parietes about opposite or behind, and a trifle above, the internal inguinal ring (Figs. 5 and 6).

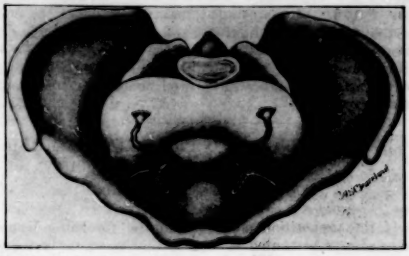

Fig. 3.—Fold taken in ligaments.

The ligament is grasped with hemostatic forceps and pulled out of the abdominal incision until it is drawn as far out of the inguinal ring as possible without doing violence to the tissues. Then a medium-sized catgut suture is passed through the center of the ligament about

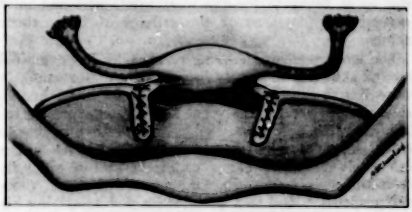

Fig. 4.—Same as Fig. 3.

a quarter of an inch from the uterine end, and the same suture is passed through the ligament about half an inch from the internal inguinal ring. The suture is then drawn tight and tied like an ordinary ligature, except that it, of course, includes only half of the

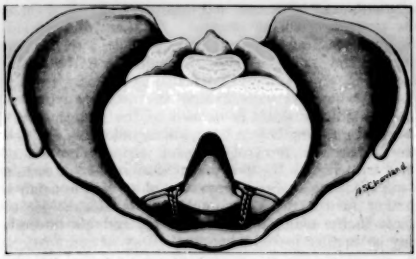

Fig. 5.—Fold of ligament sutured forward.

ligament in its grasp. The inner edges of the loop thus formed should now be touched with a chemical irritant, such as Monsel's solution or 1 to 5000 mercuric bichlorid, in order to destroy the endothelium and secure firm adhesions. The irritant is then wiped off and

the edges sewed together by fine catgut that entirely closes in and covers up the irritated peritoneal surfaces.

The end of this fold is then touched with the chemical irritant and stitched forward beside the bladder about opposite and a little above the level of the external inguinal ring. This, of course, will be only a peritoneal attachment and should be rather high, because the peritoneum is held in place here rather loosely.

Thus we practically have two round ligaments on either side, one going from the uterus partly through the first catgut ligature to the attachment behind the external inguinal ring, and the other from the uterus to the ligature and from there to the internal inguinal ring, etc.

The uterine half or quarter inch, or inch, according to the place where we transfix the ligament, is common to both of the newly formed round ligaments.

When there is a tendency to uterine prolapse, I suture the whole side of the fold of the ligament to the peritoneum beside the bladder, or even suture the portions of the round ligaments external to the folds to the parietal peritoneum in front.

When there is decided prolapse, I also stitch the infundibulo-pelvic ligament forward, the fundus uteri itself, and even take folds in the sacro-uterine ligaments.

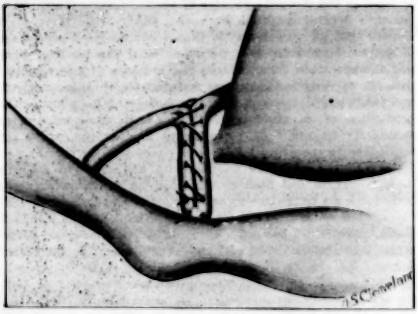

Fig. 6.—Same as Fig. 5, showing one ligament.

When there is cystocele, I separate the remains of the urachus with a narrow strip of peritoneum, and after loosely twisting the flap thus obtained and drawing up the bladder, attach the flap into the abdominal wound. A complete description of this method was given in my paper on "Prolapse and Procidentia of the Uterus," read before the Third Pan-American Medical Congress in Havana, February, 1901.

Ferguson's method of shortening the round ligaments is, properly speaking, a prolapse operation. In it he has solved the problem of making the round ligament support a prolapsed uterus, and thus has improved on Nature's methods. Whether his results, which are good, will be permanent or not is for the future to decide. Ferguson makes a new channel for the round ligaments through the abdominal parietes higher up and nearer the median line than Nature has made, and draws the ligaments very taut. The movements of the uterus are more limited, but it is held up more firmly.

THE DIFFERENCE.—The young physician is most likely to err through his anxiety to "do something"; the older one because he has got into a rut.—*Med. Standard.*

THE MEANING AND SIGNIFICANCE OF LEUCOCYTOSIS.*

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This subject was first considered by the writer a number of years ago, when cases were noticed that failed to fulfill the requirements of the accepted definition of the term leucocytosis. Certain cases, and indeed the great majority, showed under well-known conditions a decided increase in the number of all the forms of leucocytes in the blood.

For a long time it had been believed that the polymorphonuclear forms were, in such cases, always in excess, and in 1897 Cabot accordingly formulated a definition of the term leucocytosis that has until recently served as the standard of teaching throughout the United States, at least. His definition was as follows: "An increase in the number of leucocytes in the peripheral blood over the number normal in the individual case, this increase never involving a diminution in the polymorphonuclear varieties, but generally a marked absolute and relative gain over the number previously present."

The experience of the writer has gradually led him, not only to question the accuracy of the above definition, but to call attention to certain forms of leucocytosis that have been noted by himself and other observers, but of which little has been written or said up to the present time. Actual cases seem to show that in at least two important respects Cabot's definition of 1897 is in error, viz.:

1. Leucocytosis should not necessarily imply an increase in the total number of leucocytes, even in the presence of an active inflammatory influence. The total number of leucocytes may be normal, or below normal in the individual, and a significant leucocytosis still be present, if there is a relatively high percentage of the polymorphonuclear cells. Such an increase implies that the same processes are at work as are suggested by a numerical increase in the total number of cells, and is of even greater import.

2. Nothwithstanding the presence of inflammatory causes in the body, exerting influences that are sufficient to produce an absolute increase in the number of leucocytes, the percentage of polymorphonuclear forms may not only not be increased, but even diminished in the individual case, owing to other and more potent specific influences.

In discussing these forms of leucocytosis the terms relative and absolute will be used because they are now generally understood, and also because they have been employed in a similar sense in previous papers by the writer. By relative leucocytosis will be understood all forms of leucocytosis in which the polymorphonuclear forms are in marked excess of the normal percentage (70 to 75 per cent.). By absolute leucocytosis we will imply an increase in the total number of leucocytes in the individual case, irrespective of the percentages of the various forms.

RELATIVE LEUCOCYTOSIS.

This subject has been briefly referred to by the writer in several papers published during the past two years. Its apparent importance has grown with each new case in which it has been noted, until the conclusion seems warranted that not only do many cases occur in which a decided increase in the polymorphonuclear forms is

* Read at a meeting of the Philadelphia County Medical Society, Nov. 26, 1902.

evident in the absence of an increase in the total number of leucocytes, but that such a decided increase in the polymorphonuclear forms under these circumstances suggests either the presence of pus, or some other active inflammatory condition in addition to a grave loss of power in the natural resisting forces of the body.

Many clinicians have noted cases in which an absolute leucocytosis has been present and gradually fallen as the energy of the body gave way. Some have even gone so far as to make an occasional observation on such an occurrence. In the same chapter as has already been quoted Cabot says: "In some cases in which the absolute number of leucocytes is not increased we see a relative increase in the adult cells, pointing to the fact that influences are at work similar to those which produce an absolute increase."

Many others, before and since the foregoing was written, and among them Thayer at Johns Hopkins Hospital, have cited occasional cases in which the same theory has been demonstrated as true. Nearly every one has regarded these cases, however, as rare exceptions to the ordinary, and the necessity for being on the watch for a relative leucocytosis as a needless precaution. No one except the writer, up to the time of a recent and unfortunately personal discussion of the value of blood examinations in general, seems to have found the routine examination of the relative percentages of the leucocytes in ordinary conditions either of particular interest or worthy of their attention. At that time he endeavored to show that the blood was not thoroughly examined in any case until a differential count of the leucocytes had been made; and several cases were cited to demonstrate the value of the discovery of a relative leucocytosis of marked proportions. Since the publication of these articles it has been a source of pleasure to learn that in many different directions a renewed interest has been excited in the percentage of the various forms of leucocytes, though with considerable skepticism and doubt as to the value of such study. It would seem, therefore, not out of place at this time to again call the attention of clinicians as well as all blood students, to the value of relative leucocytosis as a clinical sign, and to study its actual significance.

No one will deny that in most cases of inflammation the polymorphonuclear leucocytes show an increase in number out of proportion to the other forms, at the same time with and in the presence of an increase of the absolute number of leucocytes. In such cases, as for example, the ordinary instances of intestinal inflammations, tonsillar infections, appendicitis, pleural and abdominal effusion, pneumonia, etc., the process is expected and regular, and the preponderance of the multinuclear forms becomes the more marked with the intensity of the infection and the increased efforts at resistance on the part of the tissues of the body. In such cases we may say, as we have had occasion to remark before, both the absolute and relative leucocytosis to be of any value must be weighed in close connection with the clinical symptoms, and must never be depended on to form a diagnosis or allowed alone to indicate operative or any other vital measures. The writer has, however, yet to see a case in which either an absolute leucocytosis has been present, followed by a fall to or below the normal number of leucocytes, with a persistence of the high percentage of polymorphonuclear forms; or in which there has been from the beginning a complete absence of absolute leucocytosis, and yet a decided increase in the percentage (85 to 100 per cent.) of polymorphonuclear forms—to repeat, he has yet to see such a case in which there has not been found either a purulent collection, or some grave inflammatory process that threatens the life of the patient.

On the other hand, a considerable number of cases has been previously cited in which the truth of this assertion has been evidenced. The following, including several already mentioned, demonstrate both acute and chronic conditions in which the principle held true.

CASE 1.—A child, aged 8. This case presented a moderate absolute and a very high relative leucocytosis. This condition, as noted at the operation, would indicate that the resistance of the body was at a low ebb, and the absolute leucocytosis, therefore, not high. Forty hours previous to the blood examination she was well. Since then she had grown fretful, with pain in the abdomen. Had passed a few large round worms the day before, and vomited one. Her appearance was decidedly septic. Distinct pain and tenderness on pressure centered around the appendiceal region. Rigidity of the abdomen. Blood examination on Jan. 29, 1902, gave H. 74 per cent., r. b. c. 5,824,000, leucocytes 17,200, polymorphonuclear cells 96 per cent. No other pathologic changes in the blood. The operation showed a gangrenous appendix and a large quantity of foul pus in the abdominal cavity.

CASE 2.—A typhoid patient of six weeks' standing. This case illustrates the presence of a marked polymorphonuclear increase in the complete absence of absolute leucocytosis. The patient's general condition improved, and yet the fever chart showed that all was not as it should be; the high percentage of polymorphonuclear cells persisted until the physical signs and the operation demonstrated the presence of pus. In this case the typhoid influence was unfavorable to a leucocytosis, and yet, while it was not overcome sufficiently to allow of the production of an absolute leucocytosis, it was counteracted sufficiently to admit of a polymorphonuclear rise to 96 per cent. The temperature had several times reached normal, and for some days had been bounding up and down in a septic fashion. There had been no chill and no symptom over the body for some time since to account for the temperature. The blood examination, made for Dr. Morris J. Lewis (Jan. 9, 1902), gave H. 95 per cent., R. 4,960,000, L. 7,800; no differential count made. No malarial organisms. No pigmented leucocytes. Jan. 24, 1902, the blood showed H. 70-75 per cent., R. 3,832,000, L. 4,800. Polymorphonuclear cells 92 per cent. No other pathologic change in the blood picture. Condition continued without change and on Jan. 30, 1902, the examination showed H. 78 per cent., R. 4,962,000, L. 9,200, polymorphonuclear cells 92 per cent. On this day a slight bulging was made out in the apex of the vaginal wall. No abdominal tenderness or mass felt then or at any time previous. Operation showed a large ovarian abscess, from the pus of which a pure culture of typhoid bacillus was obtained. The blood examination made the day after operation (Feb. 6, 1902) gave H. 60 per cent., R. 4,320,000 and L. 7,900, the polymorphonuclear cells 72 per cent. This last examination was made by Dr. Longcope at the Pennsylvania Hospital, and, of course, after the pus had been evacuated. The case was reported in full by Dr. Lewis at a later date.[1]

Case 3 demonstrated the influence of even a chronic suppurative condition on the percentage of polymorphonuclear cells, and this in the absence of an absolute leucocytosis. The patient was a Swedish girl, with a walnut-sized abscess of the axillary glands. Otherwise well. Blood examination before incision of glands (Feb. 10, 1902) gave H. 94 per cent., R. 5,220,000, L. 7,600, polymorphonuclear cells 94 per cent. No other pathologic blood changes. Blood examination on day following, H. 92 per cent., R. 5,232,000, L. 8,200, polymorphonuclear cells 78 per cent.

CASE 4.—Examined for Dr. F. A. Packard during convalescence from lobar pneumonia of several weeks' standing. Temperature irregular. Pneumonia still unresolved at the base of the lung. Symptoms indicate a pleural effusion, possibly of pus.

1. Amer. Jour. Med. Sc., October, 1902.

Blood examination (Feb. 11, 1902) gave H. 93 per cent., R. 5,264,000, L. 8,400, polymorphonuclear cells 96 per cent. No other pathologic changes. Pleural puncture was made, but no fluid was obtained. From this point on the patient improved steadily and rapidly. This case showed the condition of affairs that one would naturally expect with a mass of leucocytic infiltration in the chest, and throws light only on the novel action of the multinuclear cells in inflammatory processes.

Case 5 resembled in many ways Case 2, in that it occurred in a woman, and also in a typhoid case of weeks' standing. After a protracted course the temperature assumed a septic character, the patient appeared exhausted, an intense cystitis was present, and it appeared possible, if not probable, that a purulent collection was present, either as the result of typhoid infection or secondary to the bladder condition. The physical examination was equally negative with that in Case 2. The blood appeared thin, coagulation was slow; H. 48 per cent., R. 4,160,000, L. 14,200. The polymorphonuclear cells constituted 54 per cent. of the entire number of leucocytes. The Widal test was positive at this time. The case took a sudden turn for the better on the day following the blood examination, and by its subsequent history confirmed the suggestion of the low percentage of polymorphonuclear cells that neither pus nor active inflammatory influences were present in sufficient force to overcome that exerted by the typhoid infection in depressing the number and polymorphonuclear percentage of leucocytes. From that time on the convalescence was steady and complete.

This case was studied not long after the discovery of the purulent collection in Case 2, and with the latter constantly in mind. The presence of 14,000 leucocytes, with a polymorphonuclear percentage of only 54, will be considered subsequently in connection with the second point of our discussion.

This paper was nearly ready for publication when a sad and most striking instance of the occurrence of a high polymorphonuclear percentage with a steadily decreasing absolute leucocytic count, marked the almost certain time of perforation of the bowel in a physician well known to the profession and the public, and an intimate and cherished friend of the writer.

CASE 6.—A physician, 39 years of age, with a previous history that was negative except for a slight recurrent bronchitis, and for several undoubted attacks of appendicitis during the past eighteen months.

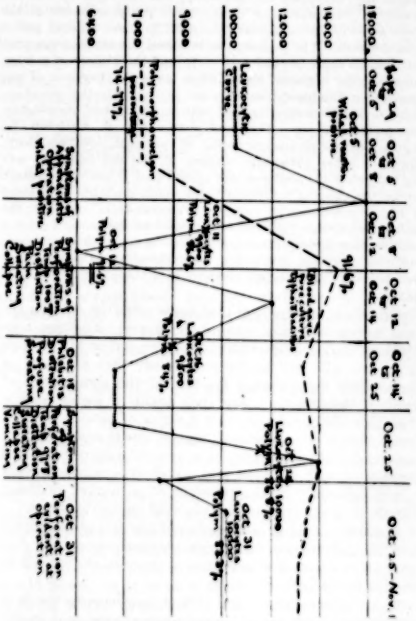
The writer saw him on Oct. 1, 1902, and, realizing that he was facing a serious illness, on the following day, because of close personal associations, transferred him to the care of Dr. Morris J. Lewis. The history of the past two weeks indicated typhoid fever, or a latent, increasing appendicitis, or both. The blood picture when first seen on Oct. 1, 1902, was H. 73 per cent., R. 4,880,000, L. 10,200. No malarial organisms. No pigmentation of leucocytes. No poikilocytosis. No differential count made. Widal test negative. On the following day the symptoms and physical signs suggested appendix trouble. The leucocytes numbered 10,400 and again 10,600. The polymorphonuclear count, however, showed only 74 per cent., and of small lymphocytes 17 per cent. Both of these blood examinations were made by the writer. On Oct. 2, 1902, Dr. Longcope examined the blood. The clinical symptoms still pointed to appendix involvement, rather than typhoid only. The Widal reaction was not yet perfect, though suggestive. On Oct. 5, 1902, doubtful spots were found; the appendix condition, for the first time, appeared secondary. The blood was again examined by the writer, who found the Widal test for the first time positive. The diazo reaction was strongly positive. The leucocytes numbered 9,800, the polymorphonuclear cells 77 per cent., the small lymphocytes were still 17 per cent. On Oct. 7, 1902, the leucocyte count rose to 14,900, and on the following day to 18,400. There was increasing tenderness in the right iliac fossa, and marked rigidity of the right rectus muscle. The appendix was removed. (A pathologic description of the organ will be duly reported by Dr. Lewis. It is sufficient to say that it presented unmistakable evidence of both chronic and acute inflammation.) The Widal test was again positive. On October 9 the leucocytes numbered 14,300; on October 10 14,100; on October 11 the temperature was 104 F., there was a marked chill, and the leucocytes fell to 9,900. The polymorphonuclear count was 86 per cent. No malarial organisms could be found. On October 12 marked signs of weakness; temperature fell to 100 F.; pulse feeble; profuse sweat; extreme abdominal distention and pain; leucocytosis. Polymorphonuclear percentage 91.6 per cent. Small mononuclear forms 4.2 per cent.

October 13.—Blood gave a pure culture of the typhoid bacillus.

October 14.—Wound opened in the lower portion. Marked distention. Profuse sweating. Leucocytes, 10,300.

October 15.—Leucocytes, 7,700.

October 16.—Leucocytes, 9,500. Polymorphonuclear forms 84 per cent. Small mononuclear cells, 10 per cent.



October 18.—Profuse sweating. Both legs slightly tender and swollen. Leucocytes, 7,300.

October 20.—Leucocytes, 8,800. No malarial parasites found.

October 22.—Marked distention and abdominal pain. Leucocytes, 10,000.

October 23.—Much distention, apparently confined to the colon. Leucocytes, 8,300.

October 24.—Marked distention. Leucocytes, 10,000. Polymorphonuclear cells, 86 per cent. Small forms, 8 per cent. During this day and the next severe pain in the left abdomen. Extreme distention. Considerable clear fluid removed from the abdomen. Vomiting. Temperature fell to 97 F. Leucocytes, 14,100.

October 26. Condition much improved. Wound healthy. Serum sweet. Leucocytes, 9,800. Extreme distention. Phlebitis distinct. Leucocytes, 12,250.

October 29.—Pain in left abdomen severe. Leucocytes 8,600.

October 31.—Pain on pressure to left of umbilicus. Appearance of collapse. Gas and fecal matter escaped from wound on examination. Leucocytes 10,100. Polymorphonuclear cells 83.3 per cent. Small mononuclear forms 13.2 per cent. Operation. Large perforation (size of half dollar) in under portion of transverse colon, and surrounded by a gangrenous area. Region around perforation appeared closed off by exudate and adhesions. Death occurred on the following day.[2]

The last case to which reference will be made is one that came under observation also within the last months, illustrating the same point, though in a different way.

CASE 7.—A woman, aged 38, of nervous habit, with a history of longstanding abdominal trouble. During the previous two years she had passed considerable quantities of blood in her urine; a lumbar operation was performed, and a movable kidney sutured in place. Since that time there had been constant and distinct signs of appendicitis until the autumn, when the patient was barely able to keep her feet. She was affected physically, nervously and mentally, and the right side of the abdomen was constantly rigid. With the progression of the case every symptom appeared to point to a collection of pus in the abdomen. The patient was delirious, the temperature that of a septic type, the abdomen rigid, and the history of a longstanding and neglected appendicitis, made the diagnosis of pus probable. The blood was examined just prior to the operation, with a view to confirming, and with no thought of questioning, the presence of pus. The blood picture was: R., 4,010,000; L., 9,400; polymorphonuclear cells, 89 per cent. No poikilocytosis, or other pathologic changes of the red cells. It was agreed before the abdomen was opened that if pus were present under the existing conditions there would probably be present a higher percentage of polymorphonuclear cells, and that the actual percentage (89 per cent.) could be accounted for by a simple inflammatory condition. This was found to be the case, and the operation revealed a long, chronically thickened appendix, containing about one-third of a teaspoonful of serous exudate.

Of course, in the light of cases cited in this paper, conclusions will, and should, be drawn. And yet conclusions should be carefully drawn or not at all. There is no one who will be tempted to say that we know or understand more than a fraction of the significance of relative leucocytosis. And yet, again, it seems certain that there is present in such a series of cases a pointed trend toward a connection between severe inflammatory conditions which appear in a system undermined and threatened with collapse, and a high polymorphonuclear count, especially in the presence of a marked decrease (gradual or sudden) in the absolute leucocyte count.

The most rational explanation of the fall of leucocytes and the persistence of a high polymorphonuclear percentage in cases of this nature appears to the writer to be the following:

In all inflammations and infectious processes the first and prompt tendency is toward phagocytosis, and in the procedure both the total number and the polymorphonuclear percentage of leucocytes increase. It appears that as long as the resistance of the body holds out the total number of leucocytes remains in excess of the normal. When tissue resistance gives way phagocytosis becomes less active, though not entirely done away with, and the total number of leucocytes diminishes. As long as phagocytosis is at all apparent, however, it shows in the increased percentage of polymorphonuclear forms, and at times this is excessive, even when vitality is so low as to be unable to furnish the slightest absolute leucocytosis. In other words, all the forms of leucocytes are diminished owing to the lack of phagocytic energy, which accompanies the loss of vitality in the tissues. Of the leucocytes that still remain there must be a proportional excess of the adult forms as long as any tissue energy remains, since these forms are most actively concerned in the protective processes of the body, and are most in evidence at such a time. It can not be assumed because there has been an excess of polymorphonuclear forms that when the total number falls the polymorphonuclear forms only remain in excess. This is by no means the case in simple acute effusions, in evident pus collections or in pneumonia; on the contrary, with the decrease in the total number of polymorphonuclear percentage also falls, or, as in Case 3, the polymorphonuclear percentage falls with even a rise in the total number of leucocytes. Case 6 seldom showed an absolute leucocytic count of over 10,000, and only once did it rise to 18,000. For the greater part of the time, however, with a constantly low numerical count (4-10000) the polymorphonuclear percentage averaged over 85 per cent., and at the probable time of perforation registered 91.6 per cent. with a total numerical count of 6,400.

Case 7 showed no absolute leucocytosis, a decided though not extreme polymorphonuclear leucocytosis, in the presence of symptoms all of which indicated a purulent condition. Probably the extreme depression of the patient was the cause of the absence of an absolute leucocytosis. Certainly, I think the appendiceal inflammation accounted for the polymorphonuclear leucocytosis, though in the absence of a numerical total increase, and the fact that this polymorphonuclear percentage remained a moderate one (as has not appeared to be the case in the presence of pus) was of decided interest in the light of the actual findings.

At just what point to call the condition a significant polymorphonuclear increase presents a serious question. It seems safe to say that the cases already studied indicate 80 to 85 per cent. of polymorphonuclear cells as a suspiciously high percentage, and in the absence of an absolute leucocytosis a very serious one. Over 90 per cent. would appear to be still more indicative of active and grave inflammatory processes, and usually suggestive of purulent or other leucocytic exudates or effusions. Pneumonic consolidations give this picture, as may also acute and chronic pus collections, and nearly all septic intoxications. If in any of these conditions the absolute leucocytosis disappears, and the polymorphonuclear percentage continues high, we have a warning of overtaxed powers of resistance. As all powers finally give way even the polymorphonuclear percentage must fall, as it is the last sign of a worn-out energy. It is not safe to form iron-bound rules for new principles; but if any new principle seems to be well grounded on fact it is the one that urges scrupulous attention to a patient whose leucocytes show a high polymorphonuclear count in the absence of an absolute leucocytosis.

ABSOLUTE LEUCOCYTOSIS.

Far less need be said at the present time in regard to the occurrence of an increase in the total number of leucocytes in the blood under inflammatory and similar conditions. There is still in existence, as there always will be, a small body of men who persist in striking at the phantom of a leucocytosis that will diagnose a case or decide difficult operative questions. Needless to say they will wear themselves out in the effort and with no injury to the ghost that never assumed material form. The great mass of clinicians (and this term includes distinguished clinicians as well as a large class of so-called country doctors that are not a whit behind the city men

2. These notes are inserted owing to the courtesy of Dr. Morris J. Lewis, who will report the full clinical history elsewhere.

in energy and up-to-date methods of medical diagnosis) is learning to look on the occurrence of an absolute leucocytosis as only a clinical symptom, though sometimes a very significant one. It may occur in slight degree in absolutely healthy persons; it may also point to a fatal condition. In every instance the particular individual and the particular leucocytosis must be considered together in order to obtain any value from the study and in order to avoid error.

In many cases nothing new will be learned from the examination of the leucocytes; in many others invaluable information will be derived. Moreover, it can not be denied that in certain conditions even a pus collection may be so nearly walled off from the general circulation as to have no serious effect on the processes required for a seemingly healthy existence. Such an instance is seen in occasional large abscesses of the liver, especially the tropical form, which are known to have existed beyond shadow of doubt within active persons for years before evacuation. Sometimes these fail to cause an absolute leucocytosis, even though the resisting powers of the patient are good; and the explanation of its absence must lie in the fact that a membrane of such density is formed as to protect the circulation from the influence of the purulent process, and must in like manner prevent the very process necessary to the production of a leucocytosis. Just as fever, pain and swelling may all be absent in the presence of a pus collection surrounded by a dense fibrous membrane, so the absolute leucocytosis seems occasionally to fail, and for the same reasons. The writer has as yet, however, never seen a case of so-called walled-off abscess in any portion of the body that failed to present a relative leucocytosis of the polymorphonuclear cells.

It seems hardly necessary to state that the leucocytes vary normally from 5,000 to 10,000 in a single individual, and that digestion and exercise are two of the most common causes of such variation. Any text-book on the blood will advise the reader that a leucocytosis, to be significant, must be of decided proportions, and certainly an increase over the number normal in a given person. Most text-books, however, fail to state that the presence of a leucocytosis is one clinical sign, and that there is no clinical sign known to-day whose value is not to be estimated as part only of a complex picture. The fact is also usually overlooked that one examination of the leucocytes is not only unsatisfactory, but often misleading; and that frequent and even constant examinations must be made in order to obtain the full and certain value of any study of the blood. No number of leucocytes can be fixed at which we can say that pus or any other inflammatory or infectious condition is present. In one subject 20,000, in another 50,000, and in another double that number, of leucocytes will be found suggesting identical conditions, and yet each of these figures is suggestive of a certain order of process that will be still more strongly indicated by the complete clinical picture. There has never been a more untrue accusation than that the students of leucocytosis are endeavoring to decide on operative measures and make diagnoses that will rest solely on the blood picture. Such accusations are always made by men who have heard and believed the enthusiastic beginner, or who hear half a statement and lose the gist of the argument because they have not had time or interest to listen carefully or well. Such men make serious mistakes, as the result of a misuse of a valuable clinical sign, and lay the blame for a result for which they themselves are solely responsible at the door of an innocent and valuable measure.

Perhaps one of the most pertinent suggestions given by an increase in the total number of leucocytes is obtained when constant examinations show either a persistently high count, accompanied by symptoms and physical signs that point to a localized process, or a gradually but steadily increasing count (total) under similar conditions. A gradually falling leucocytosis usually indicates a bettering of the general physical condition. We have already laid sufficient stress on the study of the polymorphonuclear percentage to fear that this last assertion will be misinterpreted. Occasionally every physical sign and symptom will abate and improve, and the total number of leucocytes fall to or below normal, though the actual condition is one of grave seriousness. In such cases the relative leucocytosis may be relied on to warn of impending danger; at this point all clinical symptoms and signs fail. Procedures must, in the light of our present knowledge, be undertaken that may not seem clearly warranted, and with the full knowledge that the interior of the body presents riddles that can not always be deliberately solved. Any and every leucocytosis should be looked on with grave suspicion, but with the full knowledge that it is only one clinical sign, and that clinical signs are only signs after all. The prevailing wind may cause them to point in the wrong direction. When this is fully realized the so-called dangers of blood study will have been lost sight of, and certain reluctant semi-students will fall into the line of those who use to full advantage every form of leucocytosis that may be found present, after a number of thorough examinations of the blood has been made. They will then no longer insist either that the breath sounds are always absent over a pleural effusion, or that a leucocytosis, when properly studied, is misleading. The experience of men who are to be trusted has too often proven both of these beliefs to be without foundation.

The final and all-important question is: "Of what clinical value is a leucocytosis to the practitioner?" The experience of the writer at the bedside and in the laboratory leads him to answer as follows. As long as the clinician considers first the physical signs, then the temperature chart and history of the case, and lastly the report of the laboratory examinations of all obtainable excretions and secretions, and finally all three in their proper relation to one another, just so long will he find the presence of a leucocytosis, whether absolute, relative, or both, of inestimable aid. Its presence or absence should never, let it be once again repeated, alone decide in favor of one diagnosis or form of treatment or another; or persuade the surgeon to operate unless other indications of convincing nature are present. But in their presence such evidence as a marked absolute or polymorphonuclear leucocytosis must assuredly bear great weight; and when followed day by day—as it should be in a serious case—a leucocytosis may point to the correct solution of a grave problem. Who knows but that what we have learned from the behavior of the leucocytes in cases such as have been presented may save to us precious lives such as that so recently lost to the medical profession and the world at large. Experience and desire were at a loss to ascertain either the state of affairs within the abdomen or the proper course to pursue; another hint in such a case is beyond price. In a sudden rise, or a steady gradual increase from hour to hour, or from day to day, we have a sign board that

means danger, and points to a careful study of physical signs. A leucocytosis never can indicate pus, or any other inflammatory condition, and should never be allowed to influence treatment in the absence of other equally convincing evidence.

In certain conditions a leucocytosis indicates the retention of considerable resisting power on the part of the patient, as in pneumonia; and in like manner in the presence of pus, the physician would fear to see the number of leucocytes fall while the purulent collection remained in the body. It is a different matter when the total number of leucocytes is low, and the polymorphonuclear percentage is very high. It may then be inferred that a grave condition is present, and it is fair to assume that the polymorphonuclear increase is the indicator of all that is left of resisting power on the part of the body. Let this loss of tissue energy decrease still further and if the principle hold true even the polymorphonuclear increase must fall with the complete collapse of phagocytic action. We have still much to learn from the study of actual cases, but we have progressed far enough to lay hold of certain indications that will be valuable when other signs have failed. It is warrantable to state that no case has as yet been observed in which normal processes have been accompanied by such a blood picture.

ABSOLUTE LEUCOCYTOSIS IN THE ABSENCE OF POLYMORPHONUCLEAR INCREASE.

Case 6, as already noted, furnishes at least one instance of the occurrence of a moderate leucocytosis (absolute) in the absence of an increase in the number of multinuclear cells. (See footnote at end of article.) Just what significance to ascribe to this is not easily determined. There were present a typhoid infection that would tend to diminish the absolute number of leucocytes (which it failed to completely do), and the polymorphonuclear percentage, and also a cystitis that would have the opposite influence. The result seems to have been a compromise. Probably the typhoid infection was by far the most potent influence, and certainly it was the one that at that time dominated the system. The cystitis was also, no doubt, of typhoid origin; and yet the pus formation must have been so local in its influence, and so completely drained through the ready outlet through the urethra, that the suppuration had little or no influence on the general economy in comparison with the typhoid poison. Occasional cases of typhoid fever, and, in fact, certain normal persons, present an average leucocytic count of several thousand above the customary figure (5,000 to 10,000), and 14,000 in this case may not have been a leucocytosis. It appears more likely, however, that it did represent the slight influence of the local suppuration on the blood and tissues, held in check by the typhoid infection. Other and similar cases have been noted in which the absolute leucocytosis was even of a less degree and therefore even more questionable.

CONCLUSIONS.

The following conclusions seem warranted:

1. The term leucocytosis must include every increase in the absolute number of the leucocytes of the blood examined, as well as every increase in the percentage count of the various leucocytic forms.

2. A leucocytosis, of whatever nature, must always be regarded as a clinical sign of importance, but never of such weight as to influence against equally convincing physical signs.

3. A high percentage of the polymorphonuclear forms in the absence of an absolute leucocytosis indicates the presence either of pus or of some grave inflammatory process, together with a low vitality of the patient.

4. Specific factors may rarely exert such an unusual influence as to interfere with the customary reaction of the polymorphonuclear cells. At least one instance has been noted in which the total number of leucocytes was increased at the same time with a marked reduction in the number of the polymorphonuclear forms. This condition is, probably, seldom encountered.*

5. Single counts of the leucocytes, or single estimations of the leucocytic percentages are often misleading; while a persistent series of observations will seldom fail to aid in the diagnosis and treatment of the condition.

6. A gradual, but steady, rise in the total count of leucocytes above the customary number usually indicates the presence of an active and augmenting inflammatory influence. When this increase reaches large proportions it may be looked on as an indication of the presence of an active leucocytic process (seroses or purulent effusion, localized pus collection, pneumonic exudate, etc.), provided the clinical picture also bears out the suggestion.

IS THE CONSUMPTIVE CHEST FLAT?

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Some years ago, in the course of a study of the disease-liabilities of the human as compared with the animal chest, I was led to take some measurements of the diameters of the human chest at various ages and in certain diseases. The results of these were somewhat unexpected, and led to further researches, of which a preliminary report was read before the Philadelphia meeting of the Association in 1897, and published in THE JOURNAL of the American Medical Association, Sept. 11 of that year.

Since that time I have been gradually accumulating further data, though unfortunately delayed by a period of impaired health, and as these are now sufficient in number to give a reasonable probability of correctness to deductions drawn from them, I have ventured to again report progress through the columns of THE JOURNAL. A short résumé of the position taken in my former paper will be necessary to clearness.

My views may be briefly summed up in the statement that the tuberculous chest instead of being flat is really round; that the antero-posterior (sagittal) diameter, instead of being diminished relatively to the transverse, is, on the contrary, increased, so that the term "flat-chested," as applied to the consumptive, is really a misnomer.

So far as I have been able to discover, no text-book—with the exception of the last edition of Cabot, which mentions my findings—or other authority on physical diagnosis supports this view; on the contrary, most of them directly controvert it. Manual after manual of physical diagnosis repeats, parrot fashion, the time-honored statement that the typical tuberculous chest is flat, in support of which is shown one ancient drawing of what I am strongly tempted to regard as a purely ideal

* Since the preparation of this paper the writer has had the privilege of studying a case of appendiceal abscess, yielding a pure culture of the colon bacillus, in which later an abscess formed posterior to the bladder, and still later another posterior to or within the liver, the pus from both of which also gave a pure culture of the same organism. The total count of the leucocytes varied from 20,000 to 46,000, and at no time was the polymorphonuclear percentage above 80, usually ranging from 70 to 75 per cent. The influence of the colon bacillus on leucocytosis will be discussed in a later full report of this case.

chest-outline, usually copied from Gee, and by him derived from heaven knows what remoteness of antiquity. It is therefore with a full realization of the unorthodox and perhaps insufficiently tested character of my position that I shall proceed very briefly to outline my reasons for the belief that is within me.

As all are aware, the human chest is, with one or two exceptions (the bats and the whales), almost unique in the animal kingdom, in that its transverse diameter is the longer, and this, of course, is obviously associated with the locomotive necessities of the anterior limbs in the quadrupedal and the erect positions respectively. The animal or quadrupedal chest having to be carried between the parallel-moving anterior limbs, naturally disposes its air space in the shape of a box, having as little width in its anterior part as is consonant with sufficient heart room and general vigor. Of this the familiar "deep" chests of the hound and of the race horse are illustrations which will occur at once. It may be remarked in passing that in every order of vertebrates it is the exigencies of locomotion which seem to determine the shape of the chest. Even before lungs are present it is "deep" in the earlier forms, the fishes, for obvious "yacht-shape" reasons; rounded in most amphibians and reptiles which crawl flat-bellied, with legs (if present) wide apart; rounded in birds with their wide-apart wing attachments, although crested with a great keel which gives it an opposite appearance; "deep" again in all quadrupeds with their parallel-moving anterior limbs, but flattening out in the fliers, like the bats, the pure swimmers, like the whales, and our own biped-climbing, upper families, the apes, and man.

The impression under which I began my study of the disease-liabilities of the two forms of chest was that the human chest had become more subject to disease from over-specialization, so to speak, and that the consumptive chest would be found to be, if I may use the term, the super-human chest form, having departed farthest from the normal type and vigor. To my astonishment, however, I found that my first six or eight measurements made on consumptive chests, showed an actually greater antero-posterior diameter relatively to the transverse one than the normal chest. I concluded that I must have been mistaken, and returned to the attack on fresh cases. But to my surprise the first result was absolutely corroborated by almost every successive case, until finally, when I had collected about forty measurements of tuberculous chests, I found that the average index of these was nearly ten grades higher than that of the normal.

First of all, however, I found myself compelled to establish or determine what was the normal chest index —and, indeed, to invent the index for myself. By "index" I simply mean that same statement of relation between diameters which has proved so exceedingly useful in craniology, applied to the chest. Taking the transverse diameter as 100, I express the antero-posterior diameter in percentages of this, just as is done between the antero-posterior and transverse diameters of the cranium. This I found to be, from measurements of about 50 normal chests of students, and soldiers in the garrison at Buffalo, through the kindness of my friend, Major Appel, then surgeon-in-charge, to be about 70; in other words, the antero-posterior diameter, or "depth," of the normal chest is about 70 per cent. of its width. After I had secured these measurements for myself, my search for other measurements giving a chest index was finally rewarded by the discovery of a large number of measurements taken by Dr. Seaver on the students in the Yale gymnasium, these covering 2,300 individuals, and giving almost precisely the same index as I had already elicited, namely, 70. This, then, I think, may be fairly taken as the average index of the normal chest, although, of course, I wish to be distinctly understood that there are very considerable variations, some of the measurements having gone as low as 62 or 63, and a few having gone even as high as the tubercular level of 80, or above. The average index of the 40 tuberculous cases, on the other hand, was 79½, making them nearly 14 per cent. (10 degrees) deeper than the normal chests.

This result at once brought into suggestive prominence the well-known fact that this round chest was the normal state of affairs in infantile and child life, and I proceeded to make a number of measurements of embryos from the fourth month up, of infants, of children, and of boys and girls up to the ages of 17 or 18, with the result of finding that the axes or diameters of the chest at birth were nearly equal, giving it an index of 101; in the embryo the index runs as high as from 105 to 115; in children under two years, the index had fallen to about 94; in children from 3 to 7 years the index averaged 85; while in boys of from 14 to 18 years of age it had flattened down to a little above 80.[1] The conclusion was obvious, that the type of chest most common in tuberculous cases was a persistent immature chest, in other words, was a chest which had practically retained the form normal at about the age of from 15 to 18 years.

I could still hardly bring myself to believe that such was the case, until I began to examine critically the actual chest shape in apparently flat-chested boys and children, when I quickly discovered the optical delusion, which has given rise to our prevailing conceptions as to the flatness of the immature and of the tubercular chest.

Briefly stated, flatness of a chest is merely an index of the position of the shoulders. Your flat-chested individual is almost invariably round shouldered, and if you will simply take the trouble to seat your flat-chested child or consumptive patient on a low stool, put your knee in the middle of his back, a hand on each shoulder, and pull the shoulders back into something like their normal, dorsal position, you will at once see, on looking down the front of his chest, that the actual shape of the rib-cage is rounded and barrel-like. Indeed, it is this very shape which has given rise to the abnormal position of the shoulders.

In the normal chest the posterior surface of the chest wall is sufficiently flat to allow the inner surface of the scapulæ to rest comfortably on it, and the shoulders fall back easily and remain naturally in the so-called erect, or military, position. In the rounded chest of the child or the consumptive, on the other hand, the scapulæ, having no flat surface on which to rest securely, their lower angles projecting out "like wings," as some poet-anatomist has said (alar), from the sharply rounding chest wall, roll forward in the direction of least resistance, pulled also by the great pectoral muscle-sheets, and come to rest, instead of, so to speak, at the outer and upper corners of the chest, almost on its anterior wall. The so-called "muscle-bound" plowman or bench workman has almost the same sort of shoulder position. In fact, almost incredible as it may seem, we have been misled by analogies drawn from the animal kingdom, and instead of the "deep," human chest, that is, the chest with the long antero-posterior diameter, being the type of vigor, it is just the reverse, and the *healthy, vigorous*

1. For full tables of measurements see my "Studies in Human and Comparative Pathology," 1901, Chap. V.

human chest is the broad, flat, well-expanded, low-indexed type.

A moment's consideration of the mechanism of respiration in the two cases will, I think, show the truth of this, at first sight, almost absurd conclusion. Both of them are, for mechanical purposes, bellows. In the quadruped, on account of the position, and necessity for parallel movement, of the anterior limbs, the bellows must be turned, so to speak, on its side, and the largest part of the respiratory movement must take place behind the shoulder girdle, of which the heaving flanks of the grey-hound or the rapidly-galloped horse are striking illustrations.

In man, on the contrary, after the erect position has been assumed and the shoulder masses have rotated outward and backward, in order to give freer play to the hand and arm for the use of the tool and weapon, the scapulæ come to lie at first on the outer and finally on the posterior or dorsal aspects of the chest. This, with the lateral pressure of the arms and elbows, leaves the anterior surface of the chest freest, and the movable flap of the lung bellows becomes turned in that direction. So that the antero-posterior range, which is almost absent in the quadruped, becomes equal to, if not slightly in excess of, the lateral flap-swing. At the same time, of course, the diaphragmatic respiration has become relatively less than in the quadruped, loaded, as that great muscle sheet has now become, with a share of the weight of the liver, in the erect position.

Thus the relative value of the different factors in respiration has been markedly altered in the human chest, and this fact is one which, in my judgment, has not received the consideration to which it is really entitled. These may appear like somewhat positive conclusions to reach on the basis of such a comparatively small number of measurements, but I must explain in defense, if there should be any misapprehension, that this apparent positiveness is merely due to the brevity of the statement which is required.

The next series of measurements which I was able to secure of tubercular chests in any considerable number was at the celebrated Brompton Hospital for Consumption, in London, during a term of research work abroad. For these I am indebted chiefly to the courtesy of Dr. C. Theodore Williams and the members of the attendant staff and the kind assistance of my friend Dr. J. C. Conner. These cases numbered 42, and while taken not merely on the other side of the Atlantic, but also in a different social class from my American series, corroborated its results in a really singular manner. The average index of the 42 cases was 79.6 as compared with 79.5 in the almost identical number of American cases. Through the courtesy of Dr. Rolleston I was asked to present these results before the current meeting of the British Medical Association (1899), and they were published in the *British Medical Journal*, Oct. 28, 1899, and a few months later formed the basis of a chapter in a monograph published about two years ago.[2] This publication was the means of interesting a number of other members of the profession in the question, and I am now able to report a list of 75 cases from Dr. E. H. Colbeck of London, which he has most kindly and generously sent me, taken at the Victoria Park Hospital for Diseases of the Chest. The general average of this is in singularly close accord with the other series, namely, an index of 80.3. The agreement is even closer when the cases of the series which occurred in women, 14 in number, are eliminated, which leaves a male average of 79.3, which is extraordinarily close to my average for the Buffalo and Brompton series, 79.5 and 79.6, respectively. This is the most interesting and valuable series which I have yet received. First, from the fact that it contains a larger number of women, in whom measurements are for obvious reasons much more difficult to secure, and second on account of the large number of cases in an early stage of the disease.

No less than 42 of the 75 cases were in an early stage, and the fact that their average index was 77.6, less than 2 degrees below the average of the whole series, strongly corroborates my tentative view that this shape of chest is a precedent symptom of the disease and not a result.

The series of 14 measurements in women is also interesting as showing a very much higher index than even the already heightened male degree, namely, the average being 84.3. This, of course, is only what one would expect from the well-known greater persistence of the infantile shape of the chest in women, but as to how far it rises proportionately above the average index of the normal female chest I have not been able to secure a sufficient number of measurements to base a statement on.

Two cases in this interesting series are recorded, one as in the very early, and the other prebacillary stage, and as one of these has an index of 83 and the other of 82, it would seem certain that in some cases at least this shape of the chest preceded the disease.

Three other responses have also been made within the past few months to my request for assistance and measurement blanks sent out. The first of them is from Dr. Franklin White of Boston taken at the Long Island Hospital, and these number 35 in all and give an average index of 77.9, nearly 8 degrees above the normal and only 1.6 degrees below the average of my other cases. Of these 10 were in women with a slightly higher index of 78.3, but below the average of the Victoria Park women. Of the 35, five are recorded as in an early stage, and these are an even more striking indication of the pre-existence of this type of chest, in that their index is 79.6, or 1.7 above the average of the series. Dr. White's series is especially worthy of notice from the wide range of extremes in individual cases, not less than 8 of the 35 being at the norm of 70 or below, four of them falling as low as 63 or 64, thus showing that, while the overwhelming majority of tuberculous chests are of high index, the disease is by no means confined to this type of thorax.

The second is from Dr. W. A. Evans of Chicago, who, with Dr. M. G. McHugh, physician in charge of the Cook County Hospital for Consumptives, has gathered together a splendid series of 107 cases with an average index of 80.8. This was published in the *Medical Examiner and Practitioner*, October, 1902, and while it does not give a table of measurements in detail, so that I am unable to analyze it, the conclusions, which are quite fully elaborated, support my own at every point. A small number of cases of early tuberculosis which they have examined shows a high index and they heartily endorse my view, that the persistence of a chest index of over 70 is a sign of arrested development and of a greater degree to susceptibility to tuberculosis than that of the normally shaped chest.

A new and valuable addition is made by their series of 38 measurements, taken on inmates of asylums and paupers, not suffering from tuberculosis, and show a much higher index than the normal. This is of great importance, inasmuch as it agrees with both my own measurements on this class, taken at reform schools and

2. "Studies in Human and Comparative Pathology," H. J. Glaisher, London, 1901.

other institutions, and also with some measurements made by Dr. Arthur McGugan of Denver, who informs me in a personal letter that he finds this round, prominent type of chest common among the chronic insane. I have long been inclined to regard this type of chest as indicative of general arrest of development, and I should not be at all surprised to find it present in almost as large a percentage of the chronic insane as in those suffering from tuberculosis. To phrase it roughly, one may perhaps be regarded as a physical degenerate who breaks down in the lung, and the other as a physical degenerate who gives way in the brain, and it must also, of course, be remembered that an enormous percentage of the insane (from 30 to 60 per cent.) die ultimately of pulmonary tuberculosis.

Last of all is a series of 35 cases from my friend, Dr. Albert Abrams of San Francisco, which gives an average index of 78, and which he has kindly permitted me to use, although yet unpublished. He, however, inclines very decidedly to the opinion that this shape of chest is due to an emphysematous condition of the lungs, which he has found, and I believe correctly, to be present at a very early stage of tuberculosis, if indeed it does not precede the disease.

This, then, makes a total of over 350 cases of tuberculosis in which chest measurements have been taken, every component group of which gives an index of from 77 to 80.8, the general average being 79.7. This, though still hardly sufficient to base a positive statement on, does certainly seem to me to furnish good grounds for a careful reinvestigation of the question and a defense and justification of the almost unanimous statement in the text-books either on practice or physical diagnosis that the tuberculous chest is flat.

My list of personal measurements is steadily growing and new lists are being sent in to me, from time to time, by the kindness of my friends in the profession, and as soon as I have accumulated 500 or more I propose to send a circular letter to the authors of the standard text-books on physical diagnosis and practice of medicine, asking them to kindly send me the data on which their statements and occasional outlines are based, or failing these, to reinvestigate the subject for themselves.

In the meantime I have prepared printed blanks for recording, with full direction for taking, chest measurements, and shall be most happy to send copies to any of my readers who may be sufficiently interested in the subject to make a few measurements in their wards or clinics. I would be especially grateful for any groups of measurements, no matter how few in number, taken on private patients, the vast majority of my data hitherto having come from the hospital classes. The measurements may be taken with an ordinary pelvimeter or large carpenter's calipers with an inch or centimeter scale; the antero-posterior diameter by letting one point rest on the sternum at the level of the nipple (male), the other on the dorsal spinous process horizontally opposite. The transverse diameter is obtained by sliding the tips of the calipers backward at the nipple level until the widest possible point of separation is reached, behind which they will, of course, begin to approach each other again, then read off the scale; both measurements to be read off in the post-expiratory pause or resting position of the chest.

From the evidence so far presenting, the following conclusions seem to me reasonably probable, though, as before stated, I do not feel justified in advancing any more positive position than this until I have secured at least 500, and preferably 1,000, measurements, taken on all classes and nationalities.

First.—The typical tuberculous chest is round instead of flat and has an average index of about 80, nearly 10 degrees above the normal.

Second.—This type of chest precedes the disease.

Third.—It is an abnormal persistence of the fetal, infantile and child type of chest.

Fourth.—Any chest more than 18 years of age which shows an index of 80 or higher should be regarded as abnormal and as rendering its possessor more than usually liable to tuberculosis.

Fifth.—The occurrence of such a chest in any patient over 18 years of age, suspected of tuberculosis, raises a strong probability of the disease.

Sixth.—The chests of growing boys and girls should be systematically measured at stated intervals, and wherever the index is found distinctly higher than that normal for their age active measures should be taken to remedy the defect.

Seventh.—All those sports and exercises which involve wide-swinging use and play of the arm, chest, shoulder group of muscles, such as tree climbing, swinging from ladders, from rings, from bars, ball throwing, spear hurling, tennis, swimming, will tend to correct this defect and flatten the chest down to its proper index.

These, in fact, are the influences which have made the human-chest shape, and all that is needed to perfect it in the individual is a healthy reversion to the arboreal habits of our prehuman and the war sports of our savage ancestors.

BLOOD PRESSURE DETERMINATIONS IN GENERAL PRACTICE,

INTRODUCING A PRACTICAL INSTRUMENT FOR ROUTINE USE.

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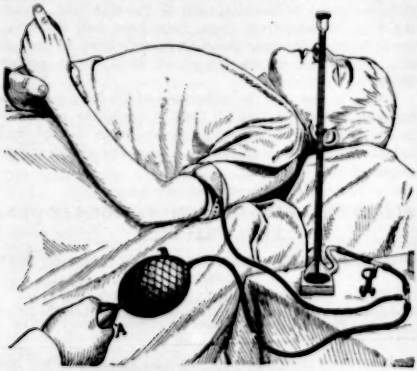
Accurate measurement of arterial tension, which has formed the experimental basis for the physiology of the vascular system since the invention of the kymograph by Ludwig in 1847, has received but little attention from clinicians until of late. The results derived from these laboratory experiments on changes in vascular tension have been appreciated and adopted by the practitioner and form no insignificant part of the *rationale* of his diagnosis and therapy, but while the methods remained of a nature that restricted them to the laboratory they could have no direct clinical application.

Within the past few years several instruments have been devised which have been constructed on a sufficiently practical principle to admit of their extended clinical use. Already the literature relating to clinical blood-pressure observations is voluminous, and one can not glance over a current medical journal without seeing repeated references to this work. From many of the larger hospitals in this country and abroad are coming reports of observations on blood pressure in various morbid conditions, and a vast quantity of valuable material is being acquired which will place arterial tension and its significance in a new light before the medical world. The conception of arterial tension and its therapy must be revolutionized since its determination is removed from the obscure realm of indefinite denomination and per-

sonal equation to the plane of mathematical accuracy.

It is not the purpose of this paper to give the results of any cumulative work on blood pressure. I have already emphasized the value of routine determinations in stimulation, and in connection with Dr. Briggs will soon give[1] the results of our observations on blood pressure in a variety of conditions occurring in the wards of the Johns Hopkins Hospital. I merely wish here to present the use of an accurate estimation of arterial blood pressure in the wider field of general practice, and to describe an instrument which I have previously referred to,[2] and which I hope may render such determination easier and more practical than is possible by any of the forms of apparatus now obtainable.

My first observations were made with the Gärtner apparatus, which, however, proved very unsatisfactory, both for accuracy and ease of application. On account of mechanical difficulties in the instrument itself, and vasomotor changes in the finger of the patient, morbid states involving extreme variations in pressure, such as shock, hemorrhage, toxic hypotension and the hypertension of uremia and apoplexy, could not be followed with any



satisfaction, and the instrument is almost inapplicable in the negro and very young children.

The Hill-Barnard apparatus I have not used; first, because I believe maximum pressures to be the best index for systemic force, and this instrument registers minimum pressures only; second, because it requires considerable time and training to manipulate; third, because it involves the use of a spring manometer, which is always liable to be inaccurately gauged and can never be depended on for correct reading unless controlled by a mercury manometer.

The Erlanger apparatus, which combines the principle of the Riva Rocci and the Hill-Barnard instruments, and so gives both minimum and maximum readings, is the ideal for physiologic research; but I found it too ponderous and bulky for clinical work. Messrs. Brush and Fischer used this instrument in the wards of the hospital for some valuable observations on blood pressure in typhoid fever, but it required two men to carry and operate from bed to bed, so was obviously precluded from very extended clinical use.

1. Johns Hopkins Hospital Bulletin, May, 1903.

2. American Journal of Medical Sciences, March, 1903; Maryland Medical Journal, January, 1903; Johns Hopkins Hospital Bulletin, February, 1903.

Dr Cushing had introduced the Riva Rocci apparatus into use at the hospital, and this instrument I found by far the most satisfactory for routine determinations. The principle is simple in the extreme and its practical application easy.

There were several features of the original form of the apparatus which made it inconvenient to handle, such as the complicated arrangement of the mercury manometer and tubing connections and the loose scale, and it also, with other mercury manometers, was so high and unwieldy that it was impossible to carry it to outside visits. The instrument which I present here attempts to apply the Riva Rocci principle in a compact, simple form that will render it serviceable to the general practitioner.

The apparatus consists of three essential parts connected by rubber tubing, a manometer, an arm piece and a bulb with valve attachments. These form a closed air system throughout which pressure is everywhere transmitted equally.

The manometer is entirely of glass, so that readings are not obscured at any point by cork or other jointing. A vertical tube scaled to 350 mm. fits below and projects into a glass reservoir containing mercury. An outlet tube entering the reservoir near the top allows free communication with the rest of the system. The scale, divided into centimeters and millimeters, is etched on the glass, avoiding the possible errors incident to a loose scale behind the glass. The upright tube at the level of 210 mm. is divided by a glass joint fashioned like a ground-glass stopper, the upper end fitting into the lower. This arrangement permits the manometer being packed into a small, easily portable case, and removes the only objection to the mercury manometer, i. e., the amount of space a sufficiently long tube occupies. The lower tube scaled to 210 suffices for all cases except those with marked hypertension, and for the latter it is only necessary to adjust the upper portion. I have considered the mercury manometer as essential for accuracy and reliability in recording pressures. Spring or aneroid devices are always liable to gross errors of adjustment, and require constant control by a mercury manometer. The weight of a certain column of mercury is an absolute quantity, except for the constant fractional variation for temperature.

The arm piece is to transmit the pressure to a peripheral artery of the patient. In estimating pulse tension by finger palpation we obliterate the radial artery by downward pressure against the firmer tissues below. This principle, which was also that of the earlier sphygmomanometers, entails many errors due to position, caliber of artery, thickness of intervening tissues, thickness of arterial wall, etc. The principle of the Riva Rocci method of applying this pressure overcame these difficulties and, according to Janeway, marked the greatest advance in the history of the sphygmomanometer, the one which at once made readings accurate and easily applicable clinically. The pressure, instead of being applied in one direction on the artery, is applied equally around the artery. An extensile rubber bag completely encircles the arm and the pressure is thus transmitted equally through the medium of the tissues to the artery, perpendicular to its wall at every point. This principle minimizes the effect of anatomic and structural peculiarities. The rubber bag is covered by a canvas support with hook and eye attachments, which admits of its being fitted to any size arm.

The rubber bulb by which the operator raises the pressure in the air system and the reservoir bulb are similar to that used in a Paquelin cautery. An outlet tube, guarded by a spring pinch cock, is introduced in the system near the manometer so that the pressure may be released after each reading.

A reading should not take longer than the half minute required for a pulse count, and may be made by any one at all trained in pulse palpation. The band is adjusted snugly around the patient's upper arm as the place of choice, well above the condyles of the humerus. I usually place it almost midway between the elbow and shoulder, though this is unimportant except in very muscular men, where the sharp slope of the biceps in the lower third of the upper arm makes application here inadvisable. The observer then, palpating the radial of the patient distal to the band, quickly raises the pressure in the air system by squeezing the bulb A with the other hand until the pulse is obliterated. This pressure, as registered by the manometer, is noted and the column of mercury allowed to fall slowly until the pulse returns. These two points are confirmed without releasing the pressure, merely varying the column of mercury between them by alternately squeezing and releasing the bulb B. The two points will usually be 2 or 3 mm. apart and the mean between them is the maximum arterial blood pressure. Thus, if the pulse lost at 127 mm. and returns at 125 mm., the reading is called 126 mm.

The minimum pressure as demonstrated by Howell and Brush occurs during the maximum oscillations of the artery wall. These are transmitted to the mercury column and the minimum reading may be determined approximately with this instrument, as described by Gumprecht, by noting the point of maximum oscillation of the mercury column after the tube leading to the bulb B is clamped off.

The only instrument that gives exact readings of minimum pressure is that of Erlanger, and the amount of extra apparatus necessary for this determination makes such an instrument too bulky for routine use. The instrument presented here is intended primarily for maximum blood pressure readings, and only exceptionally will the minimum reading be of clinical significance. However valuable it is in physiologic research to know the exact measure of the pulse wave at every point, what the clinician is concerned in is simply some definite, accurate and easily applicable method of determining what is ordinarily spoken of as pulse force or maximum blood pressure.

It is to be depreciated that at the present time reports of blood pressure observations are appearing in different terms, so that many results seem conflicting. Some give figures of mean pressure, others of maximum, and others of minimum pressure. A single absolute standard for blood pressure nomenclature must be adopted to avoid this difficulty, and I would propose that the maximum blood pressure, as determined by the Riva Rocci principle, be accepted as a standard, and if further details be added that they be individually designated. This question will be more fully discussed elsewhere, but my reasons may be briefly summed up here as follows:

1. Because maximum readings correspond to what has previously been meant by the terms arterial tension and pulse force; that is, the pressure necessary to obliterate the pulse wave, thus to use the same terms for a different pulse quality must inevitably be confusing.

2. A maximum reading requires the least time.

3. It involves a simpler principle and technic, so that it may be safely intrusted as a routine to nurses or other attendants. This has been demonstrated in the wards of the Thomas Wilson Sanitarium and the Johns Hopkins Hospital.

4. It is the more accurate, depending on so definite a quality as obliteration of the pulse rather than the comparatively indefinite point of maximum oscillation of a needle or column of mercury.

5. It is the maximum pressure which is of practical and clinical value and which affords the safest index of actual vascular force. It is during the systole alone that we have the aggregate effect of the elements of circulation. During diastole we merely have a residual effect.

6. An instrument for these maximum determinations can be put in a form so simple and compact that it can become of accurate and reliable routine use in general practice.

I present this instrument because I have found it accurate and easy of application and because it can be made in a simple portable form, which may encourage a more general use of precise measurements of arterial tension.*

The value of blood pressure determination is already sufficiently evidenced by the general interest in the subject, but as yet their application has been almost entirely confined to scientific research in the larger hospitals of the country. This is, of course, a necessary beginning in the new field, for individual observation could be of slight comparative value without its significance had been demonstrated by accumulated evidence. Although those generalizations are a necessary antecedent of more extended use, the chief value of accurate determinations of arterial tension will not be compassed until they are applied in general usage to individual cases. This is true of any method. The results of its scientific application may be great, but while it remains inapplicable in practical usage its limitations are set. Collaborated blood pressure observations have already given us many new ideas concerning the various phases of arterial tension and have cleared many old ones, and as yet the work is only begun; but in a comparatively few years all conditions will have been studied and the deductions drawn, and if the estimation of arterial tension has not become an active, every-day working method in medical practice, its end will have been accomplished. Comparatively little is now being developed on temperature in disease, and yet the clinical estimation of pyrexia dates back but 35 years. But the thermometer will continue always to be one of the most important aids to the profession. And so the value of universal estimation of pulse tension must win general recognition and application. The time is when the practitioner is not satisfied with placing his hand on a flushed brow and "thinking" the patient is feverish, and the time must be when he will not be satisfied with thinking the pulse is stronger.

The pulse is more generally and often appealed to for information than any other one physical sign. Of the elements of the pulse the tension is the most valuable. Since the general introduction of time-recording instruments the rate has assumed the chief position of importance because it can be numerically determined. Ordinarily in critical cases we only ask for the pulse rate because the indefinite sense perception of force is too vague to be trustworthy, yet rate in these cases is chiefly of value as an indication of strength, for experience has taught that a rapid rate often accompanies a weak pulse,

* This instrument has been put on the market by Messrs. Elmer and Amend, 205-211 Third Avenue, New York City, in two very satisfactory forms: One, with solid glass manometer for hospital and experimental use; the other, with jointed manometer in small portable leather case for the practitioner's use.

and vice versa; yet the fallacy of this generalization is but too often misleading, and it would seem but a poor makeshift to depend on the varying accompaniments of a condition when the condition itself may be determined. Pulse rate undoubtedly often affords a good index of pulse force, but a blood pressure reading is the pulse force. The use of a certain remedy in anemia would gain small credence to-day if cases were reported when the color improved after three days' treatment, while if the hemoglobin increased regularly in that time 40 per cent., it would certainly carry weight. Similarly it would seem almost negligent to *think* a certain treatment lowered the tension in a case of uremia or aneurism, or to give an infusion in shock and be content with *thinking* the pulse felt stronger. The time can not be far distant when operator and anesthetist will keep closer watch of difficult cases by blood pressure observations on the table, when routine blood pressure charts are kept as clinical aids to diagnosis and treatment in hospital wards, when careful case synopses contain blood pressure estimates, and when the general practitioner really *knows* the arterial tension of his patients.

Progress in medicine, as in the other component branches of advancing civilization, is not gradual and imperceptible, but is marked definitely by improvements and new departures from the old régime. It would seem that few individual medical advances would be more far reaching or more productive of real benefit than the substitution of precision for vagueness in the estimation of arterial tension.

FURTHER OBSERVATIONS ON INCREASED BLOOD COUNTS DUE TO HIGH ALTITUDE.*

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That altitude produces an increase in the number of red corpuscles in the blood is a principle very generally accepted. The work of a number of investigators appears to show that the increase is directly proportional to the altitude. At sea level we have, according to Laasche, a blood count of 4,974,000 cells which is by many considered normal.† At an altitude of 9,500 feet Egger found a count of 7,000,000 cells; while Viault, who worked in the Cordilleras of South America at an altitude of 14,400 feet, found the high count of 8,000,000 cells. All these counts refer to human subjects.

As a result of these and similar studies the principle of high blood counts in high altitudes is regularly found in our works on hematology, and is regularly taught in the medical schools. Further, more or less elaborate theories have been based on it to account for the beneficial effects ascribed to high altitudes. There appears to have been but little question as to whether the increase in the number of red corpuscles was permanent or merely temporary.

When our first investigations were undertaken, some two years ago, the above principle was naturally accepted; but, after a number of observations had been made, numerous remarkable exceptions were noted. How to explain these observations soon became the leading problem. From a number of blood counts which were made in order to test the accuracy of the altitude hypothesis it was found that in the case of persons resorting to a higher altitude for a short period of time that an increase in the number of red corpuscles usually resulted; but that cases residing regularly at high altitudes showed counts substantially normal. When common white rabbits were transferred to higher altitudes a similar increase followed. The increase was gradual and continued for several weeks, after which the number of cells began to decline. But these experiments were not of sufficient duration to determine whether the blood count would return to normal or remain permanently at a higher figure. The evidence, however, seemed to indicate a return to normal.

In our climatologic investigations it seemed desirable to have this problem definitely solved. For, if no permanent increase in the number of cells occurred then the beneficial effects ascribed to altitude must either be temporary or of a different character. In order to settle this point, at least in our own minds, our observations were continued; a number of animal experiments were also made to bear directly on this problem. The results of these observations and experiments are presented in this paper.

Among a considerable number of cases examined three bear more particularly on this problem and the data taken are therefore given in full.

Case 55 resides regularly in Albuquerque, but while he was spending the summer in a mountain resort, at an altitude of 7,000 feet, we were enabled to make a series of examinations of his blood. He was enjoying excellent health at the time. The period spent in the mountains was 48 days, and although not as long as could be desired, the decrease in the cell count followed the characteristic increase. The counts, together with other data, are embodied in Table 1:

TABLE 1.—BLOOD COUNTS OF SPECIAL CASES AT HIGH ALTITUDES.

Date.	Time.	Weight.	Sp. Gr.	Hemoglobin (per cent.).	Red Cells (per c.m.m.).	Colorless Cells (per c.m.m.).	Time in High Altitude (days).
Case 55..							
7/24/02	10:30	125	1.060	..	5,573,000	12,000	8
7/28/02	10:00	...	1.060	85	6,155,000	12,000	12
7/31/02	2:30	...	.....	..	6,431,000	12,000	15
9/ 4/02	3:00	...	.....	..	5,791,000	11,000	48
12/10/02	10:00	123	1.060	87	5,395,000	14,000	..
Case 75..							
9/20/02	3:00	150	1.061	84	5,093,000	6,000	4
1/27/02	11:30	...	1.061	..	5,382,000	10,000	11
10/ 3/02	11:30	...	.....	..	5,777,000	14,800	17
10/21/02	11:30	...	.....	..	5,928,000	14,800	35
10/31/02	11:30	...	1.062	78	6,280,000	13,000	45
11/20/02	10:00	...	1.063	88	5,591,000	6,000	65
12/11/02	3:45	155	1.061	82	5,218,000	6,000	86
Case 74..							
9/20/02	10:30	177	1.060	82	5,915,000	8,600	4
9/27/02	10:30	...	1.061	..	5,844,000	8,000	11
9/30/02	10:30	...	.....	..	5,564,000	7,400	14
10/ 6/02	11:00	...	.....	..	5,862,000	5,000	20
10/27/02	10:00	...	.....	..	6,271,000	15,000	41
11/21/02	10:00	...	.....	..	5,951,000	9,500	66
12/13/02	11:00	172	1.064	90	6,235,000	6,500	88
12/19/02	11:00	...	1.064	93	6,600,000	.....	94

It is seen that after staying in the mountains eight days the blood count was slightly above normal as indicated by previous examinations. It is also seen that a considerable rise in the number of corpuscles took place and that this occurred rapidly during the early part of

* For carrying out the researches embodied in this paper aid was received from the Elizabeth Thompson Science Fund, which is hereby gratefully acknowledged.

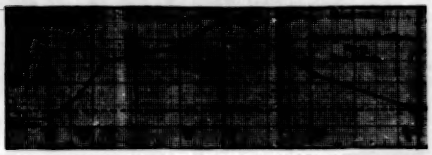
† In this paper 5,500,000 red corpuscles is assumed to be normal for man and 5,000,000 for woman.

his stay. Immediately after returning from the mountains the blood count shows a decrease to practically the original count.

Case 75 was a young man, 22 years of age, who came from the Mississippi valley at an altitude of 900 feet, to Albuquerque at 5,000 feet. The summer had been spent on a farm and the subject enjoyed excellent health. On entering the university as a student regular blood counts were made; the results are given in Table 1. It is seen that the counts increase regularly from 5,093,000 to a maximum of 6,280,000 cells, when a decrease set in and the blood returned practically to the first figure. The difference between the first and last counts, which is slight, can be readily accounted for by the seasonal variations due to temperature. It should, perhaps, be added that this case was particularly free from disturbing factors, which we have found enter largely in much of our work with human subjects. The relation between time spent at the higher altitudes and the number of red corpuscles is shown graphically by Curve 1.

To illustrate the above mentioned fact that external factors may retard, or perhaps even obliterate the effects of altitude, Case 74 is here introduced.

This is a male subject, 30 years of age, and in perfect health. The conditions attending this case are almost identical with those of No. 75. The summer, however, had been spent in recreation, his duties being assumed at about the time the blood counts were begun. These



Curve 1.—Showing changes in blood count due to high altitude.

duties were of such a nature as to cause considerable mental anxiety. Undoubtedly this factor, with his resumption of work, had much to do in modifying the usual blood phenomena due to increased altitude. After several weeks the mental strain was largely removed, and, as is seen in Table 1, the characteristic increase followed; but this was after a period of gradual decrease. In other words, there was a decrease when there should have been an increase, and the latter occurred only after a considerable period of time. The case has evidently not yet run its complete course.

In order to meet the conditions of the problem more closely than could be done with human subjects, animal experiments were made. For this purpose four healthy white female rabbits were selected and blood counts made. They were then sent to Ellis' mountain resort (altitude 8,000 feet) and the blood examined after five or six days had elapsed. The animals were allowed to remain at the higher altitude for a period of seventy-two days, when they were returned to the laboratory and again examined. The final count was made after the animals had been kept at the laboratory for one month.

Since changes in physical conditions, such as the character of the food, the amount of floor space, etc., are apt to produce important changes in the blood and so obscure the true phenomena, especial care was exercised in carrying out this experiment. The rabbits were fed on alfalfa, wheat, bran mash and a few vegetables during the time they were under experimentation. The floor space was also kept constant and comprised about 50 square feet. The animals were kept in the open air with an abundance of sunlight. Adequate protection was also given them. The fact that they gained in weight continually while under experiment shows that they were well cared for. Certainly they appeared to be in perfect health.

So far as the writers are aware the only disturbing factor entering into the experiment was involved in the transportation. The greatest care was given them during this time, and it is not believed that the animals could have been materially influenced by it, as the cage was large and the time relatively short.

Rabbit 17 was injured before the end of the experiment, and this affected the counts so as to render them worthless; they are, therefore, excluded. The counts for the other three, together with other valuable data, are included in Table 2:

TABLE 2.—BLOOD COUNTS OF RABBITS AT HIGH ALTITUDES.

Date.	Time.	Weight.	Sp. Gr.	Hemoglobin (per cent.).	Red Cells (per c.mm.).	Colorless Cells (per c.mm.).	Days in Mountains.	Days After Return to Albuquerque.
Rabbit 16.		Lbs.						
8/21/02	9:30	4½	1.056	78.0	6,666,000	4,000	....	....
8/28/02	3:00	....	....	....	7,742,000	13,000	5	....
11/ 8/02	1:00	5¼	1.060	86.0	6,671,000	8,500	72	....
12/ 5/02	1:30	6¼	1.058	86.0	6,786,000	2,500	....	27
Rabbit 18.								
8/21/02	1:45	6¼	1.057	73.0	5,849,000	9,000	....	....
8/29/02	10:30	....	....	....	5,875,000	14,000	6	....
11/ 8/02	3:30	7¼	1.058	85.0	7,760,000	7,500	72	....
12/ 6/02	3:30	8	1.056	84.0	7,391,000	4,000	....	28
Rabbit 19.								
8/21/02	3:00	3¼	1.058	73.0	6,022,000	10,000	....	....
8/29/02	9:20	....	....	....	6,929,000	11,000	6	....
11/ 8/02	11:00	5¼	1.061	80.0	6,835,000	7,000	72	....
12/ 4/02	2:45	5.6	1.060	81.0	6,702,000	6,500	....	26
Rabbit 24.		Gms						
11/29/02	1:30	2240	1.053	82.0	5,742,000	11,000	....	....
12/11/02	11:40	2470	1.058	86.0	6,083,000	7,000	....	19
Rabbit 25.								
11/29/02	3:00	2332	1.052	80.0	6,211,000	8,300	....	....
12/19/02	11:30	2500	1.057	78.0	6,249,000	7,500	....	20
Rabbit 26.								
11/29/02	4:00	2371	1.059	85.0	8,084,000	11,000	....	....
12/18/02	2:30	2672	1.059	91.0	8,716,000	7,000	....	19

It is observed in rabbits 16 and 19 that the blood counts were very nearly the same on returning as when sent to the mountains; that the intervening blood count was higher; and that the last count, after remaining for one month at the lower altitude, did not differ materially from the one made on returning from the mountains.

Rabbit 18 shows a comparatively low count before being sent to the mountains, while the two final counts are decidedly higher. It is probable that improvement in some physiologic condition occurred, and that this may account for the divergence. The final count is slightly lower than the one made when brought from the mountains, but the fall is not at all in proportion to the fall in altitude. If, then, we take the results as a whole, they agree very well with those shown in Curve 1.

A second experiment with rabbits was carried out, but this varied in a number of details. Three common rab-

bits were purchased in Las Vegas (altitude 6,500 feet) and sent to the laboratory in Albuquerque. It is seen that one transportation and one change of masters were thus avoided. The rabbits were sent by express and could not have been materially affected by the trip. They were received from Las Vegas in the evening and the examinations made on the following day. The rabbits were in good condition, but were not fat. The results of both examinations are given in Table 2.

In none of the rabbits is there a decrease in the final counts; two agree very well, while the third shows an increase. These data are in harmony with those of the previous experiment, and refute the supposition that high altitudes produce abnormally high blood counts.

To prove that subjects in high altitudes have a blood count substantially normal, it appeared desirable to make examinations of a number of cases who had resided at an increased elevation for varying periods of time. The mountain resort, Camp Whitcomb, at an altitude of 7,000 feet, furnished opportunities for obtaining a number of such cases. The results of these examinations appear in Table 3.

From the table it is seen that these cases do not vary decidedly from the normal. A larger number fall below

TABLE 3.—BLOOD COUNTS OF CASES RESIDING AT HIGH ALTITUDES.

No. of Case.	Date.	Time.	Weight in Lbs.	Age.	Sex.	Condition of Subject.	Altitude.	Time in Albuquerque. Altitude 5000.	Time in Mountains.	Sp. Gr.	Hæmoglobin, per cent.	Red Cells per c.mm.	Colorless Cells, per c.mm.	Red Cells. Above Normal.	Red Cells. Below Normal.
56	7/24/02	2:30	....	22	M	Normal.	7000	30 days	1 day	1.062	80.0	6,911,000	14,800	1,411,000	.....
57	7/24/02	3:45	....	39	F	Normal.	7000	11 years	7 days	.....	....	5,851,000	15,000	351,000	.....
58	7/25/02	10:30	....	34	F	Tuberculous.	7000	1½ years	13 days	.....	....	5,275,000	19,000	275,000	.....
59	7/25/02	11:30	150	33	M	Tub. (no bacilli).	7000	35 days	21 days	1.062	85.0	5,679,000	11,000	179,000	.....
60	7/25/02	4:00	175	47	M	Tub. (cured).	7000	8 years	1 day	1.060	....	5,186,000	12,000	.....	314,000
61	7/26/02	11:45	106	42	F	Normal.	7000	18 years	1 year	1.058	....	4,440,000	9,000	.....	560,000
62	7/26/02	3:00	125	26	F	Normal.	7000	35 days	22 days	1.062	....	4,770,000	13,000	.....	230,000
63	7/27/02	10:30	140	45	M	Tuberculous.	7000	6 years	45 days	1.056	....	5,160,000	16,000	.....	340,000
63	7/31/02	10:30	140	45	M	Tuberculous.	7000	6 years	49 days	.....	....	5,130,000	10,000	.....	370,000
64	7/27/02	4:20	125	25	M	Tuberculous.	7000	60 days	30 days	1.062	77.0	5,720,000	13,000	220,000	.....
65	7/28/02	2:45	148	19	M	Normal.	7000	105 days	5 days	1.063	75.0	5,293,000	11,000	.....	207,000
66	7/28/02	11:45	140	19	M	Normal.	7000	18 years	46 days	1.060	83.0	5,440,000	9,000	.....	60,000
67	7/28/02	5:30	131	32	M	Normal.	7000	6 years	10 days	1.060	....	5,093,000	9,000	.....	407,000
68	7/29/02	10:30	120	28	F	Normal.	7000	6 years	42 days	1.060	75.0	4,773,000	10,000	.....	227,000
69	7/29/02	5:00	135	52	F	Normal.	7000	60 days	32 days	1.062	....	5,291,000	10,000	291,000	.....
70	7/30/02	10:00	104	40	F	Normal.	7000	2 days	25 days	1.061	78.0	4,942,000	10,000	.....	58,000
71	7/31/02	4:15	145	32	M	Normal.	7000	6 years	8 days	1.062	81.0	5,581,000	12,000	81,000	.....
72	8/26/02	4:00	115	30	F	Normal.	8000	9 years	60 days	.....	....	5,782,000	11,000	782,000	.....
73	8/29/02	11:30	120	56	M	Normal.	8000	.....	9 years	.....	....	5,417,000	7,000	.....	83,000

than above, and this notwithstanding the fact that several must have been influenced by a temporary rise due to the increased elevation of 2,000 from Albuquerque to Camp Whitcomb.

Several of the above cases require comment. Case 56 has been at the higher altitude only thirty days, and therefore had not had sufficient time to pass through the altitude phenomena and return to normal. Cases 57, 58, 59, 62, 64, 67 and 70 were also at the increased elevation during the periods varying from 8 to 30 days, and would likewise be affected by the temporary increase due to a change of altitude. Five of the above cases show blood counts above normal, as was to be expected. It may be mentioned that five of the total number of cases were tuberculous, two of which, however, showed no bacilli. Such cases frequently vary from the normal in their blood counts. They should, however, be affected by the altitude factor in the same way as healthy subjects. If, then, the cases be taken as a whole, they show a substantially normal condition, and support the view that high altitudes have no permanent effect on the number of red corpuscles.

The factor of temperature change has not yet been considered in this discussion. As has been indicated elsewhere,[1] this factor plays an important part in the altitude phenomena as related to the blood. It is there shown that a fall in temperature produces the same effect as an increase in altitude; also, that winter counts are, as a rule, higher than counts made in summer.

If the above data are viewed in the light of these results, it becomes evident why the rabbits taken from a higher altitude did not show a fall in the number of red corpuscles when transferred to lower levels. In both these experiments it happened that when the animals were taken to the lower altitude a considerable fall in the temperature took place; this made the temperature conditions nearly the same in both places, with probably a fall at the lower altitude. Likewise, in the examinations of human subjects recorded above, the temperature factor plays an important rôle. The counts in Table 3 were all made during the warm months of July and August, and therefore show figures lower than would have been obtained during the winter months. They are therefore lower than might have been expected from a consideration of the altitude principle as shown in Curve 1.

From the data presented here we may conclude that the increase in the number of red corpuscles due to an increase in altitude is temporary, and that after the lapse of several weeks the blood counts again become normal. It is believed that the temporary increase is due very largely to the change in the temperature factor, and not to the diminished barometric pressure, as is generally held.

1. Paper to appear in the American Journal of the Medical Sciences.

AMERICAN TRAVELING MEDICAL SCHOOLS.—After referring to the traveling post-graduate schools, which we have recently mentioned as being a feature in Germany, the *Medical Standard* says: "In America we already have hundreds of traveling medical 'schools.' Here the practitioner's school is the medical society, which is multiplying with astonishing rapidity. Few medical men are outside of the influence of one or more of these organizations. The county and district societies are frequently attended and addressed by our most distinguished physicians, who often seize these opportunities to demonstrate their clinical methods. In this manner the country practitioner is kept in close touch with the leaders in the profession."

A CASE OF BRAIN ABSCESS

DUE TO LATENT TYPHOID INFECTION; OPERATION; DEATH FROM CARDIAC COMPLICATION.*

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AND
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MEDICAL HISTORY AND DIAGNOSIS BY DR. M'CASKEY.

The following case was referred by Dr. G. M. LaSalle of Wabash, Ind., Sept. 20, 1902:

A. T., laborer, aged 44. His health had always been good up to the time of his present illness, excepting that three years ago he had his nose broken on the left side by a vicious sheep which butted him with its horns. He was not entirely unconscious, but was severely stunned and the nasal bones badly broken, but he apparently recovered from the injury without incident. He said that his present trouble began three months ago, but close questioning elicited the fact that there had been a variable amount of head pain for about five months, which was mostly in the right eye and over the right side of the head. This head pain, undoubtedly, was the initial symptom of the brain lesion which will be described, and gradually increased in severity, so that he had at different times to stop work for a few days because of it.

Three months ago his attention was first attracted to a tingling sensation in the left hand, which was quite persistent, and about the same time noticed that the fingers of the left hand were very weak and evidently somewhat contractured, as he said they were partially closed all the time and that he could not completely open them. This had undoubtedly been preceded by slight paretic weakness, as at that time he would frequently drop things that he was holding in the left hand if of any weight.

He continued at his work, that of straightening sheet iron with a heavy sledge, for about two weeks, when he became disabled and remained so up to the time of my examination. The left hand had grown progressively weaker, until one week prior to my examination, when the weakness increased very rapidly. At that time he had considerable use of this extremity and could raise the hand up over the head, but the paralysis had increased so rapidly during that week that the hand was entirely immobile, the patient being scarcely able to move the fingers. The left leg had also become decidedly weak, and at the date of examination was unable to sustain the weight of the body. Critical examination of the face showed that the motor power of the left side was distinctly less than that of the right, although it was not easily discernible, and was, in fact, very slight.

Four weeks before coming under observation he had a sudden discharge of what, from the description given, was apparently pus from the naso-pharynx. The quantity was quite large and was estimated at from four to five ounces, although the exact quantity was, of course, quite uncertain. This was followed by marked relief of pain, and several times since then there had been slight discharge of a similar material followed by some amelioration of head pain.

The left forearm was persistently flexed on the arm, but by gentle continuous pressure could be completely extended. There was very slight deviation of the tongue to the left; or more correctly speaking, he was unable to push it as far to the right as he could to the left. There was exaggerated knee-jerk and elbow jerk on the left side. The pupils were symmetrical, perhaps a little small, but responded promptly to both light and accommodation.

His hearing was not acute, the hearing distance for a watch being fifteen inches for the right and sixteen for the left, and there had also been double sided tinnitus for a year or more, but the impairment of hearing and "ringing in the ears" were both attributed by the patient, and perhaps correctly, to the deafening noise of his occupation.

The visual fields were perfectly normal in outline and the senses of smell and taste were unimpaired.

There was no optic neuritis, but a distinct increase in the vascularity in the retina on the left side as compared with right. This condition, falling short of optic neuritis, I have several times found, and in examination of some of these cases by oculists but little importance has been attached to it, but I believe that it is a phenomenon entitled to careful consideration. In this case there was every reason to believe that it was the result of the intracranial lesion.

An incident in the case worth noting was typical alopecia areata of about five years' duration.

The analysis of urine revealed nothing of importance. Blood examination showed 6,000 red cells with 90 per cent. of hemoglobin and 13,500 white cells. The increase in leucocytes was made up principally of neutrophiles.

Co-ordination of the eye muscles was perfectly normal, the muscles of mastication were equally strong on the left side as far as could be determined. The patient read ordinary type with either eye without difficulty.

The diagnosis of brain abscess was made, and operation advised and accepted. The patient was operated on September 27 by Dr. M. F. Porter, who, at my request, uncovered the brain cortex at the level of the arm center from just in front of the Rolandic fissure forward, the opening being about one by two inches. This area was selected because of the possible relationship of the injury of three years ago, the pain in right eye, the probable discharge of pus through the cribriform plate of the ethmoid bone, and the certain involvement of the motor zone, as it gave freer access for exploration of the parts thus indicated. The accompanying cut shows the location of the abscess as nearly as it can be determined from the operative procedure, which will be described by Dr. Porter.

Following the operation the patient progressed favorably, there being, as expected, an increase in the paralysis from the operative traumatism. About three or four days after the operation, the patient complained of a little oppression in the upper portion of the chest. His somewhat constrained position rendered necessary from the operative procedure would cause some discomfort, and not much stress was laid on the symptom, although I did examine the chest once with negative results. About 11:30 a. m., October 5, seven and three-quarter days after the operation, after finishing his dinner, he suddenly complained of feeling very ill, became pallid with labored breathing and tumultuous heart action, and almost immediately became unconscious. He was seen by Dr. Porter and myself within twenty or thirty minutes, at which time he had rallied somewhat, the pulse being small and irregular, but he had a dazed expression and the breathing and heart action were still labored, so much so in fact that the heart sounds could not be analyzed at all. A careful examination failed to show any signs of unusual brain disturbance. There was no increase of paralysis, the pupils were symmetrical and normal in size and reaction, the heart disturbance with resulting respiratory embarrassment being the only symptom, to which might be added, perhaps, the temporary unconsciousness and subsequent dazed condition, both of which were undoubtedly the result of an embarrassed heart.

No autopsy would be permitted, but death was due to an acute cardiac lesion very possibly related to the septic process of the brain, probably a septic endocarditis with cardiac atony from toxemia. An antemortem blood clot probably formed in the heart, and perhaps had been

* Read before the Northern Tri-State Medical Society, Butler, Ind., Jan. 20, 1903.

forming for several days unrecognized. The clinical picture was that of sudden heart failure from such a cause. I have made autopsies in two cases in which death occurred under very similar circumstances; antemortem clots were present in both.

Examination of the pus obtained from the brain showed a profusion of rod organisms with the usual microscopic characteristics of pus. No other organisms were found. On careful cultural experiments the organisms showed all the characteristics of the Eberth bacillus, and bacteriologically could not be labeled anything else. No history of typhoid fever could be obtained, but it is well known that many cases of typhoid fever are very mild, and it is more than probable that the patient had been the victim of such an attack which passed under some other name. The typhoid fever organism is well known to be pyogenic in character and has been known in a number of instances to remain latent in the organisms for years and later become virulent with the production of local suppurative or other morbid processes.

The possible relation of the injury on the left side of the nose three years before the examination is a point worth considering. From the history given, the injury appeared to be exclusively to the left of the median line. It does not seem probable that there

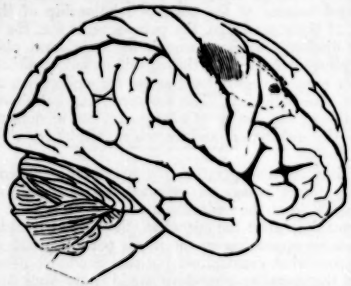

Diagram of right lateral surface. Large heavily shaded area indicates locations of abscess cavity. Small heavily shaded spot, a point at which pus was found in small quantities. Dotted line, area of brain uncovered by surgeon—about 1 by 2 inches.

could have been any actual brain injury excepting by transmitted force. If the infection had been a streptococcus or some of the other more common pyogenic organisms, the possibility of the local infection traveling from the side of the injury to the brain would be more plausible. But it would certainly seem as though the infection must almost necessarily reach the corresponding side of the brain, rather than the opposite one if such a relation existed. The presence of the typhoid bacillus, furthermore, seems to exclude a local infection of this character. That there may have been some contusion of the brain from the injury which lowered the resistance of the brain tissue and made it a prey to the pyogenic processes of the organism which in some manner found its way there is quite possible. Unless such a latent injury can be assumed, and the history at the time of and following the injury does not give the slightest indication of such an injury, the case must be looked on as strictly one of the so-called idiopathic type developing from a latent typhoid infection of unknown date and origin, the latter being in either event sufficient cause for the abscess.

OPERATION AND REMARKS BY DR. PORTER.

Mr. A. T. was operated on at the request of Dr. G. W. McCaskey, on Sept. 27, 1902, at St. Joseph's Hospital. The scalp was prepared in the usual way. Dr. E. V. Sweringen anesthetized the patient, using ether. A horseshoe-shaped flap was turned down and a section of bone one by two inches removed by the use of the trephine, Gigli saw and De Vilbiss' instrument. A crucial incision in the dura was made and the flaps reflected. Nothing abnormal could be discovered by sight or touch. A small trocar and canula inserted in various directions discovered nothing until a thrust was made in a downward and backward direction at the posterior extremity of the opening in the bone, when the point of the instrument appeared to have entered a cavity, whereupon the trocar was withdrawn and a few drops of pus flowed from the canula. Using the canula as a guide the opening was enlarged and a small soft rubber drain introduced. Thinking the amount of pus removed insufficient to account for all the trouble other areas were explored and we were finally rewarded by discovering a cavity not larger than a pea located at the anterior internal aspect of the uncovered area. This was drained by a strip of gauze. The posterior cavity was about an inch beneath the surface and the anterior one about one half or three-fourths of an inch beneath. All told I do not think the quantity of pus from both cavities would reach 2 drams. The bone was not replaced, the flap was turned back and sutured, leaving only enough opening for the drain. The operation was not followed by shock or any untoward symptom save a slight increase in paralysis such as was expected.

The unhappy ending of the case was, in my opinion, in no wise the result of the operation. This is not the first case in which the exact location of a subcortical lesion was first made known to me by exploratory puncture. A sudden change in the resistance offered to the progress of the instrument, even though slight, is easily appreciated. Had I been using a probe or a needle in this case I would have felt perfectly justified in enlarging the openings, for the sudden lack of resistance offered to the trocar was what first made me aware of the location of the cavities.

On another occasion[1] a subcortical tumor was located because of the increased impediment offered to the progress of the exploring needle by the capsule of the tumor. Exploration by this means is, if carefully done, almost without danger. One's anatomic knowledge should keep him from puncturing large vessels or the floor of the fourth ventricle. Vessels of lesser size may be avoided if, when the needle is arrested by their coats, it is slightly withdrawn and its direction slightly changed. It is to be regretted that no autopsy was allowed.

SHOCK PRODUCED BY GENERAL ANESTHESIA,

WITH RELATION TO DISTURBANCES OF THE BLOOD AND GASTROINTESTINAL TRACT.*

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Shock as a result of simple anesthesia in the absence of trauma, hemorrhage or fright has not been carefully worked out. The term "shock" is unscientific. It is the clinical expression for a group of symptoms, the result of failure of important functions of the body, as those of circulation, respiration, excretion and secretion, and general metabolism. A lowered bodily temperature is a more or less constant phenomenon. Shock is intimately connected with the nervous mechanism.

1. THE JOURNAL A. M. A., Jan. 25, 1902.

* Read before the Chicago Academy of Medicine, January, 1903, and Chicago Medical Society, March 4, 1903.

In studying shock from anesthesia it is not only essential to consider the specific toxin of the anesthetic used, but the resulting toxic bodies generated through the immediate or more remote influence of general anesthesia. Shock can not, therefore, be expressed in a single definition. The phenomena of shock are so complex that in experimental work on animals it is necessary to study each condition separately, and compile the associated facts obtained and compare them with clinical experience.

The present paper deals with (1) the consideration of the anesthetic as a cellular poison; (2) the disturbances of function as a result of the anesthesia; (3) the toxins that are evolved either from the direct effect of the anesthetic or the disturbances of certain functions of the body.

In experiments on dogs with chloroform and ether, we have not determined the direct toxic effect on cells, as this has been done by numerous observers. Sabaarth,[1] in 1866, reported 119 cases of death from chloroform anesthesia, only 48 of which were due to the toxic effects of chloroform. This led Nothnagel[2] to study the pathologic effects of chloroform and ether on the various cells of the body. Rabbits were chiefly used, and the anesthetics were employed by inhalation, by subcutaneous and intraperitoneal injections, and by direct introduction into the stomach. Doses of different size and at varying intervals were employed. The pathologic findings showed overwhelming evidence of the specific toxic effects of chloroform and ether on cells, whether the animal died from anesthesia or not. Waller's[3] research on isolated nerves showed that their electrical reaction is suspended, or ceases permanently, according to the percentage of chloroform used, and the time of exposure.

In experiments on animals I have frequently noticed that some animals would show evidences of shock more readily than others of the same species, and that even with the most trivial manipulations under anesthesia the animals would die during the same night, the following day or the second day after. They would show all the evidences of shock, as a fall in blood pressure, respiratory failure, lowered temperature, loss of sensation to a greater or less degree, and failure of the excretory organs. This led to the investigation of the question of shock from anesthesia without surgical operation.

METHODS OF OBSERVATION.

Dogs were selected, as they appear more resistant to the after-effects of anesthesia than rabbits and guinea-pigs. Chloroform and ether were used; sometimes they were combined or used alternately. The animal's temperature, pulse and respiration were observed before, during and after the anesthesia, and they were observed sometimes at intervals for forty-eight hours thereafter. The maximum blood pressure was determined, comparisons made, and changes in the blood serum were noted. The condition of the motility of the stomach and intestines was observed. A study of excretion and secretion was made. Where death occurred, a postmortem examination was made. Where shock was evident, the abdomen of some of the animals was opened under local anesthesia. The condition of the splanchnic circulation was determined by direct inspection before external factors brought about any changes, such as might be produced by air, room temperature and manipulations. The serum was secured in some immediately, and in other cases twenty-four hours after anesthesia, by the usual method of bleeding the animal in order to observe any changed condition and its toxic properties. The mucous membrane of the stomach and intestines was dissected out, and both mucosa and muscularis were chopped up separately, to determine the presence of the anesthetic used, by distillation and appropriate tests. The length of time of the anesthesia ranged from one to six hours. A distinction was noted between the immediate or primary effects and those that were remote or secondary.

The conclusions that can be drawn from the details of the experiments made on animals under chloroform or ether are that where shock is produced it does not materially differ from the shock that results from trauma. The most constant pathologic factor is failure of circulation, and this is especially expressed in splanchnic congestion. The failure of temperature and respiration has been considered to be the result of vascular failure, with the corresponding fall of blood pressure.

It will be seen, however, by referring to the Protocols 13 and 15 that the temperature fell several degrees after the injection of the serum, while the blood pressure did not always show a corresponding fall.

Wilson[4] holds that death following chloroform and ether anesthesia is always due to a failure of circulation, and this failure renders the nutrition of vital centers impossible. This would seem to imply that we are dealing with a question of time and degree of circulatory disturbance. White[5] echoes the universal clinical observation that anesthesia always adds to shock. But it is not always recognized that shock itself is often produced by the general effects of anesthesia without trauma, hemorrhage or other etiologic factor.

Kirk[6] has shown experimentally that irregularity of the heart and syncope occur in animals after the last drop of chloroform has left the blood; and it is well known that chloroform and ether may be found in the urine as long as a week after the anesthesia. Horsley[7] demonstrated that death arose from shock to the medullary centers, and that the question of dosage was more of time than amount. The evidences of vomiting, long-continued after anesthesia, are associated with severe circulatory depression, and not infrequently syncope. Ceccherelli[8] experimented on animals with chloroform to determine changes in body temperature, and Angelesco[9] carried out similar experiments with chloroform and ether. They found the fall in temperature was in direct relation to the disturbance of the circulation; that where blood pressure fell rapidly the temperature might fall from three to four degrees F. On the other hand, improved respiration and circulation caused an improvement in the temperature. Duplay and Hallion[10] demonstrated by experiments on dogs, with chloroform and ether, that there was always a fall of pressure under chloroform, also with ether, where the medullary centers were deeply narcotized. From the animals experimented on they concluded that if the failure of the circulation was the direct result of the respiratory failure, as a result of anesthesia, then we ought to expect prompt recovery from the syncope under artificial respiration. But this was not borne out in these experiments. Hill[11] concludes that chloroform paralyzes the splanchnic vasomotor tone, and, at the same time, diminishes the respiratory pump, and shock or fear, he claims, acts like chloroform by its tendency to abolish the compensatory mechanism for the hydrostatic effect of gravity. Hare[12] holds that in overdoses the heart and respiratory centers are paralyzed, and that in the usual proper doses chloroform produces death in the same manner as hemorrhage does, that is, by failure of the respiratory center, because it is deprived of blood, and a pulse failure because the heart has no blood to pump with.

Bland,[13] in comparing the effects of ether and chloroform, shows that chloroform invariably causes a fall in blood pressure, while ether does not except at the end of anesthesia and after narcosis. Hewett[14] claims that surgical shock will occur more readily under ether than chloroform.

The explanations that are usually given for the complex symptoms found in shock from anesthesia can not be explained by the simple failure of blood pressure and respiration, but there appear to be some direct toxic bodies formed that are found in the blood serum. The injection of the serum from animals that have shown evidences of shock produces many of the symptoms manifested in shock, which include loss of sensation, general malaise, marked fall in blood pressure, stertorous respiration and, what is generally more significant, rapid fall in blood pressure. (See protocols.)

Kast and Mester[15] are of the opinion that the blood contains the products of disturbed metabolism, for they found that after prolonged narcosis in healthy individuals a continued disturbance in metabolism of albuminous substances occurred, similar to that in phosphorous poisoning. Becker[16] of Bonn states that there is found in the majority of healthy persons acetonuria of varying duration after narcosis. Boyer[17] found cases of acetonuria with coma and death in from twenty-four to forty-eight hours after operation.

These observations would seem to prove that there are poisonous substances or toxins produced in the serum. The question, however, becomes more complicated when it is remembered that there is a deficiency in elimination, and therefore a retention of toxins. This may be inferred from the experiments of Galeazzi[18] and Grillo with methylene blue. They conclude that the anesthetic lessens the elimination of toxic substances, just as it lessens the elimination of methylene blue. Kemp[19] found that ether causes a rise in blood pressure in the carotid artery, followed by a fall, the urine becoming scant and containing albumin soon after the commencement of the fall in pressure. A similar phenomenon was observed after chloroform; the fall was more gradual, and secretion from the kidneys lessened as the circulation was depressed. Eisendrath[20] found cylindroids and other evidences of damage to the kidneys after anesthesia.

It is clearly evident that the toxicity of the blood may be increased through toxins elaborated by the direct effect of anesthesia, and by the retention of poisonous toxins which are normally excreted.

It is now well recognized that the blood serum normally has the power to neutralize to a greater or less degree toxins that circulate in the blood. One of the important properties of normal serum is its antiferment action, which is shown by the work of Firmi,[21] Roden[21] and Morganroth.[21] Landsteiner[21] shows that the normal blood weakens the fermentive action of pepsin, and Simniczki[22] follows up this work and demonstrates that blood serum has an antiferment action on papayotin; and also, that alcohol weakened or destroyed entirely this antiferment action of the blood.

The writer found that mixing chloroform and ether with normal blood serum lessened the antiferment action of the serum on trypsin in egg albumin. This was demonstrated by the following method: Blood serum was mixed with chloroform and ether and kept in an incubator, after which the narcotic was driven off from the serum, and the serum then mixed with one to two grains of pancreatin and a disk of egg albumin, which it digested completely, while the normal blood serum unmixed with chloroform and ether only softened the disk.

We must conclude that not only the chloroform or ether may possess this property, but an alteration in metabolism may generate a substance that counteracts the antiferment action of the blood.

OBSERVATIONS ON THE BLOOD SERUM.

We next consider the antiferment action of normal serum as compared with serum from animals that have shown symptoms of shock after anesthesia. In the following observations of the relative antiferment action of the sera, the Mett method was used. This consists of simply aspirating egg albumin into a capillary glass tube, 1 to 2 mm. in diameter, and allowing the albumin to coagulate in the tube at a temperature of 95 C. The tube is divided into short lengths and dropped into 2 to 5 cm. of the sera under investigation, with the addition of pancreatin or carica papaya. This is placed in an incubator at 37 C. After a period of twelve hours the tubes are taken out and the length of the undigested column of egg white is measured off by placing on a small glass millimeter scale under a low-power microscope. The difference between the length of the column of undigested white of egg and the length of the tube gives the degree of digestive power of the fluid. The sera into which the lengths of tubes with their albumin contents were dropped were prepared by taking from 2 to 10 c.c. of blood serum from dogs that had been anesthetized and mixing it with 15 decigrams of pancreatin or carica papaya, and this was controlled with normal sera prepared in the same way, the Mett method being then put into practice, as described above.

The following tables show the relative degree of inhibition of the sera to the action of the ferments of normal dog serum, as compared with the sera from animals that have been under chloroform or ether anesthesia.

In order to show the direct effects of chloroform and ether on normal blood serum, the following tables show the findings in a number of experiments performed. The anesthetic was mixed with normal serum and allowed to remain two to three hours, after which the anesthetic was driven off by heat at a temperature of 45 C., aided with a vacuum.

AFTER TREATING WITH CHLOROFORM.

Serum and Pancreatin Mixture.	Digested 10 Hours. Serum and Carica Papaya Mixture.
5 c.c..... 6.1 mm.	5 c.c..... 4.1 mm.
2 c.c..... 8.2 mm.	2 c.c..... 7.2 mm.
3 c.c..... 7.1 mm.	3 c.c..... 4.3 mm.

AFTER TREATING WITH ETHER.

Serum and Pancreatin Mixture.	Digested 10 Hours. Serum and Carica Papaya Mixture.
5 c.c..... 5.1 mm.	5 c.c..... 4.4 m.m.
3 c.c..... 3.1 mm.	3 c.c..... 5.6 mm.
4 c.c..... 6.1 mm.	4 c.c..... 5.8 mm.

NORMAL SERA.

5 c.c..... 8.2 mm.	5 c.c..... 2.4 mm.
2 c.c..... 2.1 m.m.	5 c.c..... 1.5 mm.
4 c.c..... 2.2 mm.	

PANCREATIN, FIFTEEN DECIGRAMS.

Time Animal Was Under Anesthetic.	Time Animal Was Under Anesthetic.
6 hours..... 9.0 mm.	1 hour..... 3.4 mm.
6 hours..... 8.4 mm.	1 hour..... 4.3 mm.
4 hours..... 7.4 mm.	

CARICA PAPAYA, FIFTEEN DECIGRAMS.

Time Animal Was Under Anesthetic.	Time Animal Was Under Anesthetic.
6 hours..... 8.8 mm.	1 hour..... 4.7 mm.
6 hours..... 8.6 mm.	1 hour..... 4.1 mm.
4 hours..... 8.7 mm.	

The blood serum of these animals experimented on also showed a marked hemolytic effect. After shock was evident from anesthesia and the animal was bled, the blood frequently showed a tendency to lake, and this was also noticed where a considerable amount of serum was

injected into an animal, the blood showing the same tendency. The following observations show this more definitely:

The serum from an animal that had been five hours under anesthesia, in shock, showed 15 per cent. hemoglobin. When fresh blood was added and centrifuged, the serum showed 50 per cent. hemoglobin.

Blood serum taken from a dog that had been six hours under anesthesia; hemolysis shown in the serum after standing eight hours; 4 c.c. of this serum added to 5 c.c. of fresh blood produced laking immediately in the test tube; .015 of blood in 4 c.c. of serum also produced laking. Hemoglobin in serum, 10 per cent.; after adding fresh blood and centrifuging, it was raised to 15 or 20 per cent.

Microscopic slide irrigated with shock serum and one drop of normal blood; placed in incubator; shadow corpuscles formed.

Agglutinization.—Serum from an animal that had been under anesthesia for three hours; one drop of blood under slide irrigated with serum showed immediate clumping. When blood from an animal six hours under anesthesia was used, the same condition was observed after the fourth and fifth dilutions.

Precipitins.—Immediate coagulations of blood have been frequently noted after prolonged anesthesia when the blood was withdrawn. One drop of normal blood added to 5 c.c. of sera showed coagulation within two minutes after having been placed in incubator. Equal parts of shock serum with normal blood showed immediate clotting of the whole mass.

The following condensed table represents the effect of serum taken from dogs which had been under the influence of chloroform or ether from one to six hours:

SERUM FROM CHLOROFORM.

	Hemolysis.	Agglutination.	Precipitins.
6 hours	Positive.	Positive.	Positive.
5 hours	Positive.	Positive.	Positive.
4 hours	Positive.	Positive.	Negative.
2 hours	Slight.	Plus minus.	Negative.
1 hour	Slight.	Negative.	Negative.

ETHER.

	Hemolysis.	Agglutination.	Precipitins.
6 hours	Positive.	Positive.	Positive.
5 hours	Positive.	Positive.	Positive.
4 hours	Positive.	Positive.	Positive.
2 hours	Slight.	Negative.	Negative.
1 hour	Not constant.	Negative.	Negative.

These experiments suggest the explanation of the cause of death in animals that have been in shock from the after-infection with saprophytic germs, which, without the shock, would have proven negative. Experiments made by the writer,[23] which have been previously published, show that the *Staphylococcus albus*, *Staphylococcus pyogenes aureus*, and the colon bacillus were equally prompt and positive in their toxic effects when injected after shock. The *Staphylococcus albus* and colon bacillus, when injected into normal animals used as controls in these experiments, gave negative results.

EFFECTS OF CHLOROFORM AND ETHER ON THE STOMACH AND INTESTINES.

We have still to consider another source of toxemia and irritation that follow the use of anesthetics when administered only for a short period. I refer to the disturbances that arise from the gastrointestinal tract following narcosis. That anesthesia from chloroform or ether interferes with the functions of the stomach and intestines is, I think, admitted by all clinicians, but just what disturbances occur is not always made clear. These disturbances include those of motility and secretion, as the direct result of the anesthesia and the splanchnic congestion.

The local effect of the anesthesia is shown in the following experiment:

The animal's esophagus was plugged to prevent the swallowing of chloroform or ether, and this was found to be quite as effective as tracheotomy for the purpose of administering the anesthetic through the tracheal opening. On examining the stomach through a fistula, previously produced and after gastric lavage, there was found an initial increase in the flow of hydrochloric acid, followed later by a diminished production of hydrochloric acid and ferments and the formation of a large quantity of mucus, which is always the product of irritation. Chloroform and ether were found in the wash water, they being recovered by distillation and the usual tests.

The fact that local irritation causes an initial rise in the formation of hydrochloric acid was first noted and published by the writer in 1894.[24] It was subsequently demonstrated by him in 1895[25] and in 1896,[26] and can be found by referring to the literature of his experiments with nitrate of silver, tannic acid, mustard and many other substances used in experimental acute and chronic gastritis. This initial rise in the formation of hydrochloric acid and pepsin was invariably followed by a decrease in their formation, and a corresponding increase in the formation of mucus, until subsequently no hydrochloric acid or ferments were secreted. It is, therefore, surprising to find that Pawlow[27] of St. Petersburg, in his recently published work, claims that these phenomena were first observed in his laboratory, and were the result of the observations of Sawrieu,[28] in 1900, which is six years after my observations, published both in this country and Europe.

It seemed desirable to determine whether the mucous membrane of the stomach and intestines contained ether or chloroform after anesthesia. To demonstrate this point, mucous membranes and muscle walls were examined separately. The stomach was washed out after a narcosis of two or three hours' duration, and the mucous membrane dissected from the muscle walls of both stomach and intestines. These were placed in separate receptacles and finely chopped. After thorough maceration, the products were distilled, and it was found that both muscle walls and mucous membranes contained a considerable amount of the anesthetics used. (The chloroform test is benzoisonitrile, C_7H_5N.) Ether was detected after distillation by the odor.

With both chloroform and ether, even after one hour's anesthesia, there was a distinct reaction for both found in distillation, but after two hours it was much more marked and distinct, and where six hours' anesthesia was used, the reaction was very much increased. In some of the experiments the mucous membrane was removed several hours after the effects of the anesthesia passed off, and still the anesthetic could be detected in the mucous membrane. The irritating effects of these would seem to account for the large amount of mucus produced, which is referred to above.

The writer has also found that constant irritation of the mucous membrane with substances, such as ether and mustard, if continued for any length of time, or if large enough in quantity, produced marked disturbances of the circulation. This was demonstrated in the experiments reported in my paper,[29] read before the American Gastro-Enterological Association, at Washington, D. C., in 1900. This is in conformity with the observations of irritations of mucous membrane that may affect the heart and circulation reflexly. Kionka[30] found that ether ex-

ercises an irritating action on all mucous membranes, even on those with which it has not been brought in direct contact. Guinard,[31] by experimental research in narcoses, found that any irritation of the intestines caused by reflex action arrested respiration and circulation. Guirni[32] observed that irritation, which may arise from mucous membranes affecting the pneumogastric and other nerve filaments, is more strikingly observed when the nasal mucous membrane is irritated, and may cause an inhibition of the heart's action. Rosenberg[33] suggested the application of 10 per cent. solution of cocain to prevent this irritation. It was suggested to the writer to use applications of cocain over the area of the stomach and intestines, with a view to blocking the irritation that might arise from the anesthetics.

Meyer and Prebrium,[34] in 1873, showed the reflex effect of gastric irritation on the heart, causing inhibition.

When it is remembered that vomiting and disturbance of the circulation are usually associated with anesthesia, and that the removal of the ether from the stomach by lavage will check the vomiting and frequently stimulate the depressed circulation, it is evident from both scientific and clinical observations that this reflex irritation is a very potent factor in the production of the symptoms of shock following anesthesia. This is strengthened by the observations of Brunton,[35] who found that chloroform taken internally produces vomiting, and that even though coma and death be averted, the irritations of the stomach and intestines continue and produce the evidences of circulatory depression analogous to shock.

It is therefore evident that the atony which is noticed clinically may have some relation to the degree or quantity of anesthetic that is found in the walls of the stomach. The anesthetic used and the resulting toxic condition may act similarly to the toxic effect of fatigue stuff. This, with the effect of the anesthetic on the nerve centers, producing splanchnic congestion, may account for the lack of motion in the stomach and intestines. This atony results in the accumulation of gases in the stomach, and gases that are found normally in the stomach will distend it when the tone of the muscle wall is diminished or lost. Experimentally, through a gastric fistula, with the pylorus and cardia tied off, I have found that after the stomach has been emptied of its gases, the formation of gas in the stomach continues, which could not have been the result of fermentation, but must have been due to the gases from the blood. The great distension that is sometimes noted soon after prolonged anesthesia produces considerable effect on the splanchnic circulation.

Meyer and Prebrium[35] observed that distension of the stomach caused a rise in blood pressure. The writer's observations, previously published, were that the initial rise was followed by a fall in blood pressure, especially if the distension was chronic or prolonged. The disturbance of the circulation, as the result of atony and distension, must constitute a very important factor in anesthesia, and as long as there is a disturbance of the splanchnic circulation we must expect a disturbance of the motor power of the stomach and intestines.

It must also be remembered that where there is a lack of motor power with retention the excretion of chloroform and ether into the stomach seems to increase the toxicity of the stomach contents. From this we would deduce the observation that chloroform and ether either form a new compound or have the power of dissolving out the toxic principles that are readily absorbed. The injection of the normal stomach contents does not produce such toxic effects up to 40 c.c.; whereas in atony of the stomach, especially after chloroform or ether anesthesia, the toxicity of the stomach contents is markedly increased. The increased bacterial growth and the formation of toxins in gastric atony have been repeatedly shown in the author's literature of the past eight or nine years.

SUMMARY.

The complex clinical picture of the after-effects of chloroform or ether anesthesia is made more clear by experimental research, from which we may deduce the following facts:

1. The circulatory disturbance is a direct result of the chloroform or ether acting on the vasomotor centers.
2. The prolonged effect of chloroform and ether on the splanchnic circulation results in congestion associated with fall in temperature. Temperature may fall without fall in blood pressure.
3. The direct effect of the toxins of chloroform and ether acting on cells, with disturbance of metabolism, may produce toxic products.
4. The resulting elaboration of toxins produces symptoms of "autointoxication," associated with the formation of hemolytic and agglutinating bodies, and precipitins.
5. Indirect toxic effects result from retention of toxic products through disturbances of elimination.
6. There is lessened resistance of the blood serum to normal excreted toxins.
7. There is lessened resistance of the blood serum to bacterial toxins.
8. There is diminished resistance to the development of saprophytic and pathogenic micro-organisms.
9. This may be partly explained by the changes observed in the sera, such as diminished antiferment properties, hemolysis, agglutination, precipitins, etc.
10. That reflex effects result, such as reflex irritation set up by the excretion of the anesthetic into the stomach and intestines.
11. As the result of atony there is the formation of toxins in the stomach and intestines through bacterial growth.
12. Atony of the stomach and intestines results in the accumulation of gases and interference with the circulation.
13. There is increased toxicity of the stomach contents in the presence of chloroform and ether.

PROTOCOLS.

EXPERIMENT 1.—Dog; fox terrier, mongrel; weight, 11 kilograms. Ether anesthesia, by inhalation. Rectal temperature, 39 C. Time, six hours. Maximum blood pressure obtained by the modification of a Riva-Rocci "tonometer," 130-140 mm. At the end of three hours temperature 36.1 C. Blood pressure, 90-95. At the end of four hours the rectal temperature was 35 and the blood pressure 70. At the end of five hours blood pressure is 65-70. The rectal temperature 35. Six hours, 60-70; rectal temperature, 34.8.

Anesthesia removed. Twenty-four hours after: Blood pressure, 110; rectal temperature 36.5. Animal bled from carotid; coagulation prompt.

EXPERIMENT 2.—Dog; curly, black mongrel; weight, 20 kilograms. Rectal temperature, 39 C. Ether anesthesia, by inhalation. Time, six hours. Ether removed at intervals, and as soon as dog showed evidence of recovery, the anesthetic was again administered. After four hours, the animal showed marked depression. Rectal temperature, 36 C. Respirations weak. Anesthetic removed. After four hours and thirty minutes, slight movements, but no return of consciousness. Reflexes returned. After four hours and forty-five minutes, animal awoke. No activity. Rectal temperature, 35.8 C. After five hours and ten minutes, anesthetic administered. Rectal temperature 38.5

C. Shallow respiration. Five hours and twenty minutes, anesthetic removed. Marked depression. Five hours and fifty minutes, anesthetic administered until sixth hour. Rectal temperature, 35.2 C. Respirations shallow; blanched surface; gums pale; rapid, weak pulse.

Animal put in warm place; twelve hours after the removal of anesthetic, rectal temperature was 36.5 C.

Clinical symptoms of "shock." Refuses to eat; will drink; very listless; extremities cold; weak, with occasional trembling. Again placed under ether. Carotid opened, and secured 850 c.c. of blood, which shows rapid coagulation.

EXPERIMENT 3.—Dog; curly, black; weight, 16.2 kilograms. Anesthesia, chloroform. Five hours. Temperature at the beginning was 38.3 C., by rectum. Blood pressure, 120. In one hour, temperature, 37.2. At the end of four hours temperature was 35. Anesthesia removed. Animal shows no sign of awakening. Four hours and thirty minutes after, temperature, 37. Chloroform was then used. Five hours, temperature 36. The animal was placed in a warm location. Twenty-four hours afterward temperature was 36.5. Refused to eat; marked depression; blood pressure, 90. The animal was bled; recovered 550 c.c. of blood. Coagulation prompt.

EXPERIMENT 4.—Dog; mongrel bull terrier. Ether. Weight, 18.5 kilograms. Blood pressure, 150. Temperature, 38.6, rectum. At the end of two hours, the blood pressure was 95 to 105. Temperature, 37. Four hours, blood pressure, 78; temperature, 36.1. Animal placed in warm place. Twelve hours after rectal temperature, 36.5; blood pressure, 90-95. Animal bled; recovered 380 c.c. Coagulation prompt.

EXPERIMENT 5.—Dog; black and white, mongrel; weight, 18 kilograms. Blood pressure, 140; temperature, 38.3. Chloroform. At the end of three hours, anesthetic removed; temperature 35.6; blood pressure, 90-100. Twelve hours afterward, temperature 37.5. Blood drawn, 500 c.c.

EXPERIMENT 6.—Dog, mongrel; weight, 17 kilograms. Blood pressure, 130. Temperature, 38. Ether anesthesia. At the end of two hours changed from ether to chloroform. Pressure, 100. Three hours, pressure, 80. Anesthetic removed. Twelve hours afterward, removed 600 c.c.

EXPERIMENT 7.—Dog. Chloroform anesthesia, two hours. Blood removed at once after the anesthesia. Recovered 650 c.c. Coagulation prompt.

EXPERIMENT 8.—Dog, mongrel pointer; weight, 12.5 kilograms Blood pressure, 130-140. Temperature, 38.5. At the end of four hours, blood pressure, 60-70. Anesthetic removed. Twenty-four hours, blood pressure 100-110; temperature, 37.2. Animal bled; 550 c.c. Coagulation prompt.

EXPERIMENT 9.—Dog, black setter; weight, 15 kilograms. Anesthesia, chloroform; two hours. Temperature, 38.5; at the end of two hours, 36. Removal of anesthesia one hour afterward; animal bled; 600 c.c. Coagulation.

EXPERIMENT 10.—Dog, white and black mongrel; weight, 9.5 kilograms Temperature, 38. Animal under anesthesia three hours. Temperature, at the end of this time, 36.1. Twenty-four hours afterward temperature 37.2; 600 cubic centimeters.

EXPERIMENT 11.—Dog. Anesthesia, chloroform; two hours. Temperature, 38.4. At the end of four hours, temperature 35.5. Blood removed the following day. Coagulation.

EXPERIMENT 12.—Dog, black and tan; weight, 6.8 kilograms. Ether, one hour. Temperature at the beginning, 39, and at the end of one hour, 37 7. Removed blood five hours afterwards. Coagulation not prompt.

EXPERIMENT 13.—Dog; weight, 15 kilograms; temperature, 38. Normal blood pressure taken at 11:20. Injection of blood serum from animal that had been five hours under anesthesia. Blood was removed one hour after the end of anesthesia: Injected into jugular vein, 11:20, 25 c.c. serum; 11:30, 15 c.c. serum; 11:35, 20 c.c. serum; 11:45, 25 c.c. serum. At 12 o'clock the temperature was 36.1; 12:20, 35. No marked fall in blood pressure; 12:30, 33.4; tongue pale; surface cold; marked twitching; 1:15, temperature inside the tissues, 33.2. Blood withdrawn, 700 c.c. Coagulated at once.

EXPERIMENT 14.—Dog, mongrel pointer; weight, 17 kilograms; 4 p. m., blood pressure, 140-145. Kymographic tracings. Anesthesia, chloroform. Injected serum from dog, removed twenty-four hours after anesthesia, which had been continued for six hours. Twenty minutes after this injected 25 c.c. of serum. 4:30 p. m., 50 c.c. of serum injected. Blood pressure, 110; 25 c.c. injected; blood pressure, 80. At 6:05 p. m., 30 c.c. injected; pressure, 57-60. Chloroform anesthesia changed to ether; blood pressure rose 20 mm. Again dropped to 50. Anesthetic was withdrawn, aseptic dressings applied, and dog put in a warm place. Result, death in six hours.

EXPERIMENT 15.—Dog, black and white mongrel; weight, 17 kilograms. One grain of morphine injected at 10 a. m.; 10:45, ether anesthesia. Normal record. Injected into jugular serum taken from a dog twelve hours after anesthesia which had lasted four hours. Rectal temperature, 39; 11 a. m., injected 10 c.c. of serum; 11:10, 20 c.c.; 11:20, 15 c.c.; 11:25, 10 c.c.; 11:30, 30 c.c.; 11:35, 30 c.c. Total amount of serum, 105 c.c. Temperature, 35.2. No marked fall in blood pressure Changed anesthesia to chloroform, with a marked fall in blood pressure.

EXPERIMENT 16.—Mongrel, placed under ether anesthesia; pressure, 140; kymographic tracings. Ether. Temperature, 41. Injected 90 c.c. serum from dog which had been under anesthesia for five hours. The serum had been removed the following day. Blood pressure fell 80 to 70; forty-five minutes, temperature 36 C. Coagulation marked, interfering with further blood pressure records. Anesthesia removed; animal placed in warm location; temperature following day, 37 C. After three days, animal still showed symptoms of shock. Died on the third day. Post-mortem revealed no evidence of infection. Cultures negative.

EXPERIMENT 17.—Small black and tan under chloroform. Blood pressure, 130. Serum used from a dog which had been under anesthesia five hours, and bled the following day; 25 c.c. of serum injected. Fifteen minutes, pressure fell to 115; twenty minutes, 110; thirty minutes, 95; in one hour, 25 c.c. serum injected. Blood pressure, 15 minutes, following the last injection, 65-70 Wide excursion. Anesthesia removed. Animal died the following day.

EXPERIMENT 18.—Mongrel bull. Ether anesthesia. Blood pressure, 150. Serum from an animal that had been under ether for four hours. The animal had been bled immediately after removal of anesthetic. Injections of 22 c.c., followed by another injection of 22 c.c. No effect on blood pressure, 20 c.c.; no effect on blood pressure, 20 c.c.; pressure, 100. In one hour, pressure 85. Anesthetic withdrawn, and animal recovered.

EXPERIMENT 19.—Dog, mongrel; weight, 15 kilograms; blood pressure, 130; temperature, 29 C. Serum used, removed the following day from an animal that had been three hours under anesthesia. 80 c.c. injected. After a period of fifteen minutes, pressure 90-100. One hour and fifteen minutes, pressure ranged from 90 to 100. Temperature, 38. Animal recovered. The following day the temperature, 39.4.

EXPERIMENT 20.—Dog, mongrel. Serum taken five hours after ether anesthesia, which had continued for two hours. Blood pressure, 135; after injection of 90 c.c., blood pressure, 100. Anesthesia changed to chloroform. Blood pressure, 90. Ether again administered, pressure 110. Ninety minutes, pressure 90-95. The following day the animal bled; removal of blood, 550 c.c.

EXPERIMENT 21.—Fox terrier; female. Temperature, 39.4. Injection of serum taken from dog twelve hours after two hours' anesthesia; 16 c.c. injected, with a fall of blood pressure, followed by a chill as soon as the anesthetic was removed. At the end of one hour temperature was 37.3; one and three-quarter hours after, 37.2. Animal placed near a warm room, and continued in a condition of shock, and died six hours afterwards.

EXPERIMENT 22.—Dog, yellow; temperature, 38.8. Injected serum from an animal six hours under anesthesia. Temperature, 38 3. Amount injected, 25 c.c. and 20 c.c. Temperature went down to 37.2. The following day rectal temperature 38.3. Animal listless; can not be aroused, and lips appear pale; marked loss of sensation. Second day, temperature 39.5. Animal depressed; marked loss of appetite. Fourth day, animal bled; shows rapid coagulation and laking.

THE HEMOLYTIC EFFECT, AGGLUTINATION AND PRECIPITINS OF BLOOD SERUM FROM ANIMALS AFTER PROLONGED ANESTHESIA.

EXPERIMENT 23.—Dog. After five hours' anesthesia blood was taken from the carotid; shock evident from low blood pressure; temperature 97; shallow respiration; collapse imminent fifteen minutes after the removal of anesthesia. Blood shows a tendency to lake, with almost immediate coagulation. Blood placed in refrigerator for twelve hours, obtained 110 c.c. of serum; hemoglobin (Fleischl), 10 per cent. One measure of Fleischl (7.65) added to fresh blood centrifuged showed twenty to thirty per cent. hemoglobin. The addition of 5 c.c. to 1 c.c. of fresh blood hemolysis within five minutes well marked, with "ghosts" floating in the serum. One-half c.c. of fresh blood, with 5 c.c. of serum, diluted two volumes with normal salt, hemolysis shown within five minutes. Four c.c. of serum added to 5 c.c. of blood showed immediate laking.

EXPERIMENT 24.—Dog, female pointer; weight 18 kilograms. Five hours under chloroform. Anesthesia removed, and animal allowed to recover from the anesthesia. Five hours later blood removed, 160 c.c. of serum obtained after standing eleven hours. Serum tinged, showing 8 to 10 per cent. hemoglobin. By adding fresh blood serum, 20 to 30 per cent. hemoglobin after centrifuging. One c.c. of fresh blood, 5 c.c. of blood serum, immediate laking; incubator five hours, marked hemolysis; hemoglobin (Fleischl) 100 per cent.

Microscopic slide with serum taken from dog under anesthesia, one drop of normal blood, showed shadow corpuscles.

EXPERIMENT 25.—Bull pup, female; weight 20 kilograms. Blood pressure taken with kymograph; injected 90 c.c. of blood serum taken from an animal that had been under anesthesia for five hours. This animal was placed under anesthesia for one hour only, and injected; no marked fall in blood pressure. At the end of one hour blood was withdrawn and obtained 80 c.c. of serum. One drop of normal blood with 5 c.c. of serum, showed hemolysis within five minutes. Equal quantities of blood and serum showed marked laking. One drop of normal blood irrigated under slide with serum placed in incubator showed shadow corpuscles. Blood serum, to which is added fresh blood (7.65 c.c.), increased the hemoglobin from 15 to 20 per cent. after centrifuge.

EXPERIMENT 26.—Dog. Under anesthesia two hours. Withdrew serum and blood, and after twelve hours serum clear. Adding one drop of normal blood does not produce any marked discoloration after centrifuging, only slight discoloration. Equal parts of normal blood serum produced slight laking. Irrigating one drop under microscope; after thirty minutes in incubator clumping is observed; no marked ghost or shadow corpuscle.

Serum taken from a dog that had been under chloroform for three hours; one drop of normal blood mixed with serum from an animal that had been under chloroform showed immediate clumping. Coagulation took place within five minutes, with 1 c.c. of blood added to 5 c.c. of serum

Animal six hours under anesthesia; ether used; serum obtained the following day. Added normal blood to such serum produced immediate coagulation. Adding one drop of normal blood produces immediate clumping. Fourth dilution with normal salt solution, 10 c.c.; added 1 c.c. of normal blood, coagulation with laking.

One drop of normal blood added to 5 c.c. of serum after four hours' anesthesia. Equal parts of blood with serum obtained during profound narcosis after four hours.

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ANTITOXIN AND THE PHARMACOPEIA.

PLEA FOR THE ADOPTION OF A TEST WHICH IN THE AUTHOR'S EXPERIENCE PRESENTS THE LEAST DIFFICULTIES.

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DETROIT.

The proposed admission into the Pharmacopeia of antitoxin for diphtheria in accordance with the resolutions of the committee appointed to confer on the subject, means, if finally admitted, the necessary adoption of a suitable standard for testing which shall be at once comprehensive, and yet so simple, to use the trite expression with reference to the introduction of tests into that most important work, one "that any intelligent pharmacist may be able to apply." While I am much in favor of the recognition by the Pharmacopeia which this most important biologic product rightly deserves, I am in favor of the adoption of the simplest test which shall show not only the number of units present in any bulb of serum, but one which can be performed within the shortest possible time in any pharmacy in the land and by a person not necessarily experienced in biological work.

There is so little known on this subject of testing antitoxin, outside of a few laboratories in the land, that it is necessary to describe in detail the methods used in testing before one can take up the consideration of the simplest method. Down to a comparatively recent time it was supposed that if a definite amount of serum had neutralized a hundred least fatal doses of toxin, which least fatal dose had been determined by injecting varying amounts of the filtered toxic solution in which the diphtheria germs had been grown, into 250 gram guinea-pigs, it was supposed that a like amount of the same antitoxin would always neutralize 100 least fatal doses of toxin from whatever source the toxin was obtained. Accordingly, Ehrlich defined a unit of antitoxin to be the least amount of antitoxin which would neutralize a hundred minimal fatal doses of diphtheria toxin. This definition remained the accepted one for some little time and either 10 or 100 m.f.d. were used in testing antitoxin the world over; but Ehrlich found by testing a number of different toxins obtained from different sources, either grown from the same or from different cultures, or using old toxins in comparison with new ones, that there was a vast discrepancy in the re-

sults; and that while with one toxin a hundred least fatal doses would be neutralized by the unit of antitoxin, probably with another toxin not more than forty to fifty or more least fatal doses would be required to obtain the same results. Other observers noted the same differences, and accordingly the definition of a unit had to be altered to read: that amount of antitoxin which was sufficient to neutralize one hundred minimal fatal doses of a certain standard toxin. Park and Atkinson took up the investigation of the subject and arrived at substantially the same results (as did Ehrlich). They found that less than 100 m.f.d. would more often be sufficient to counterbalance the unit of antitoxin than would more, and found that the greatest value for L+, or the amount of toxin which a unit of antitoxin will just neutralize, to be 126, and the least 27 times the minimal fatal dose, which agreed on the whole with the work done by Ehrlich. This neutralization the latter believes to be a chemical one in which 200 m.f.d. neutralize a unit of antitoxin for a guinea-pig weighing 250 grams.

The investigation begun by Ehrlich has been carried on in this country and confirmed by a number of different observers, and the 100 minimal fatal dose test, though still in use in some laboratories on account of the commercial advantage involved, is in no sense a reliable test to incorporate into a pharmacopeia. While a multiplied toxin standard has been found to be unreliable as a uniform test, the measure of a unit has still been preserved practically without much alteration by a system of comparative tests in which each serum has been standardized in comparison with this original standard unit adopted by Ehrlich. This work has been done under the supervision of Ehrlich and the protection of the German government at the Konigliches Institute for Experimentelle Therapie, Frankfurt-a-M., where at frequent intervals a succession of serums are standardized in comparison with a previously standardized serum, in an effort to perpetuate the original standard unit, this being necessary on account of the gradual diminution of the antitoxic content. This standard serum diluted with glycerin is furnished to any laboratory desiring it, the directions with some recently furnished being to add to 1 c.c. of the glycerin solution 12.25 c.c. of water or salt solution, 1 c.c. of the final dilution being the equivalent of 1 unit of antitoxin. From this dilution your toxin is to be standardized; to standardize which it is necessary to make a careful estimate of its strength in L+ as compared with the standard serum. This process requires the making of several very carefully made tests, and any errors made will reappear greatly multiplied in the final serum tests. If the minimal fatal dose has been determined, forty or fifty, or any other number of times, the m.f.d., or, in other words, that amount which would just fall below neutralizing one unit of antitoxin, would be taken as the L+ of that toxin, without reference to what was the original minimal fatal dose. This test requires the use of a number of guinea-pigs each weighing 250 grams.

Having carefully determined the value of your toxin L+ you are ready to begin the actual tests of the serums whose antitoxic values are to be determined. For each of another series of pigs weighing from 250 to 300 grams proportional amounts of toxin are measured out in terms of L+=250 grams of guinea-pig, the proportions for any pig weighing over 250 grams being calculated as follows: weight of pig :×::250:L+, for example, if 270 is the weight of the pig, and L+=.36, the proportions would be 270:×::250:.36. ×=.388+, and the L+ of the 270 gram pig would be changed to .388, etc. To these several amounts of toxin which are measured out in separate watch glasses for each pig, varying dilutions of antidiphtheritic serum are added as follows: to one, 1/500; to another, 1/400; to another, 1/300, etc. If 1/500 of a c.c. of serum will neutralize the toxin so that when they are together injected into a guinea-pig its life is prolonged to the end of the fourth day, then each cubic centimeter will test 500 units. If the 1/500 pig had died and the 1/400 had lived the serum would test 400 units. In the same way 1/300 of a c.c. of serum would equal 300 units; 1/200, 200 units, etc. It will be noted by the above complicated system of testing, which gives approximately correct results, that there are really two standards to be adopted, first the Ehrlich serum unit, which is imported, and second, the standardizing of a toxin in accordance with this German unit.

There are also two series of tests to be made, the determination of the L+ of your toxin, which in the hands of an inexperienced person would be attended with many difficulties, and the determination of the antitoxic contents of the serum in question. While I am not opposed to the use of this double standard, or any standard which would be in accordance with my desire for uniformity, I would like to call attention to a modification of the above method of testing serums which has appealed to me from its simplicity, and which I think has given me quite as uniform results as would the above system. The system which I have been using during the past four years in my laboratory, and which I do not claim was entirely original with myself, was based on the Ehrlich unit of measurement, except that I have substituted for the imported Ehrlich standard serum a standard toxin prepared by myself. This standard toxin was originally standardized to conform in L+ to one Ehrlich unit, and every month or two since that time new test toxins were standarized in L+ to conform to this original standard toxin. For example, if .0036 represented one minimal fatal dose, as many fatal doses were taken, usually in the neighborhood of 100, as would exactly be neutralized by a serum which had been standardized by the preceding standard test toxin. In this way I have done away with the use of the imported standard serum and have preserved instead a standard test toxin. The accuracy of my method of test has been recently confirmed by another in comparison with the latest imported Ehrlich unit and found to be practically unaltered. I am of the opinion that toxins preserved with trikresol and kept under suitable conditions in a cool place in the absence of light and preserved in full glass-stoppered bottles, will keep as long without deterioration as will serums preserved in the same manner.

As I said before, I am not adverse to the use of this imported serum, but consider it not essential for general pharmacopeial use if a standard toxin whose L+ is based on the Ehrlich unit can be adopted instead. Let the value of the original Ehrlich unit remain, but have a national test toxin adopted whose L+ conforms to the requirements of the Ehrlich unit as a standard. This standard toxin could be restandardized as often as required and a fresh lot could be manufactured and standardized every month. This standard toxin with the L+ stamped on the label could be kept in the custody of the director of the laboratory of the committee recently appointed by Congress for the purpose of testing biologic products, and for viewing the places of manufacture of

such products as toxins, serums and vaccines. This standard toxin, put up in ounce bottles whose L+ had been definitely determined, could be furnished each laboratory in the country or could be procured by any pharmacist who wished it, and from it with a few guinea-pigs and simple apparatus for measuring doses, an estimate could be made of the antitoxic value of a given bulb of serum which would come within 5 per cent. of being correct. Such a test would, in my opinion, be the simplest that could be devised that would give any approach to accuracy in results, and all serums tested with it, no matter where manufactured, would correspond in antitoxic units and the product be uniform. But if the pharmacist had to procure a standard antitoxic unit and from this not only determine the L+ of his toxin, but also the value in Ehrlich units of the given serum, the difficulty would be thereby very greatly increased and the results correspondingly unreliable.

I make an appeal for the adoption of the above method of test, for I know from years of experience how difficult it is to get uniformity where the calculations are increased. Then, too, there is such a chance for individual error to creep in that any effort to lessen this factor ought to be given consideration by the committee. Then, again, we ought to adopt a system that is American instead of one that has been imported, if the American can be proved to be just as reliable. There is such a great variation in the antitoxic value of the different serums on the market that it seems to me some uniform method of test should be adopted. This laboratory with which I am connected is willing and anxious to adopt any system of test which the committee in its judgment may recommend.

In conclusion, allow me to state that I am in favor of the adoption of the Ehrlich standard unit by the committee, but in the practical working out of the scheme I urge the adoption of a standard toxin based on the standard unit, which standard shall be maintained in some laboratory, preferably a government laboratory, and that this standard toxin shall be supplied to all laboratories producing antitoxins, or to any pharmacist desiring to make tests. I urge this in the interests of a more uniform product and also on account of its simplicity.

SOME EXPERIENCES WITH THE *X*-RAY AS A THERAPEUTIC AGENT.

REPORT OF THE CURE OF A CASE OF ALVEOLAR MELANOTIC SARCOMA.*

EDWIN WALKER, M.D., PH.D.
EVANSVILLE, IND.

To Finsen belongs the credit of first studying in a scientific manner the therapeutic action of light. His remarkable results and earnest work have opened up a most promising field. The discovery of the Rœntgen rays, and the scientific study of these, with the Becquerel and violet rays, have further stimulated thought and research.

We now know that the spectrum we see is only about one-eighth of the real one, and that in the dark field there are numerous other rays which possess remarkable chemical and photographic reaction. What effects these will have in the cure of disease none can imagine, but certainly the effect of the Rœntgen ray in some hitherto incurable maladies gives reason for great hope.

* Read before the Mississippi Valley Medical Association, October, 1902.

It is not my purpose to go into the general discussion of the treatment of cancer by the *x*-rays. Many interesting articles on phototherapy have been published in our recent literature, but the whole work is so new that we can only glean from them the most general principles. It would be hardly profitable to review them at this time.

I will give a brief outline of my own observations in the effects of *x*-rays on malignant disease.

In the fall of 1901 I was consulted by a physician who was suffering with a post-peritoneal malignant growth. At his request, we took a skiagraph, which required a twenty-minute exposure. He returned a few days later, saying that he felt much better and that he believed the growth was smaller. Our examinations did not confirm this observation, but, at his request, six or seven applications were made at intervals of a week, and for a while he thought he was much better. The disease, however, advanced to a fatal termination.

In this case my confidence in the therapeutic value of the ray was so little that I did not pursue the treatment with any enthusiasm, but as I look back to it now, after further experience, I really believe that it did do some good, and that a more vigorous treatment might have yielded better results.

The case which I desire especially to report was so remarkable in its course and termination as to be for me an epoch in my professional life. No previous experience has produced so profound an impression. To see a rapid-growing sarcoma heal in a short time under any treatment is truly extraordinary. Such patients are doomed in spite of any known application of remedies. Here was a man grasped from certain death before my very eyes—can you wonder at the deep impression made?

The fortunate subject of this sketch was Jacob Saelwachter of Wadesville, Ind. He was 31 years of age and a farmer. He came to me Feb. 20, 1902. On the right cheek, just in front of the ear, was a black tumor protruding from the surface, one and a half inches in diameter. There were no enlargements of the glands in the neck. Under cocain anesthesia, the growth was excised well out into healthy tissue. The wound was united with silkworm gut sutures. It never healed.

Evidences of return could be seen in two weeks, small black spots appearing about its edges, and about this time an enlargement appeared under the angle of the jaw, which grew with great rapidity.

March 22, under general anesthesia, I made a second operation, excising the old wound widely. The incision was continued to the neck, and I removed the tumor, which had extended deep down between the vessels to the vertebra. The sterno-cleido-mastoid muscle was infiltrated for more than an inch. The diseased portion was thoroughly excised. At various points in the bottom of the wound black places could be seen. These were curetted, only to reveal the greater depth of the infiltration. The operation had lasted nearly an hour, when I concluded the complete removal was impossible. The wound was packed with gauze. There was no infection, still it was soon evident that the morbid process was again advancing. The wound showed no disposition to heal, and the surrounding tissues were rapidly infiltrated.

On May 1, as a last resort, it was decided to try the *x*-ray. It was really a forlorn hope, for it seemed almost impossible to favorably affect a mass which was now hard and extended to great depth. The gaping wound was two inches deep, covered with sluggish granulations, and the sides infiltrated, involving almost the entire neck on that side.

Considering the gravity of the case, it was decided to push the treatment, even at the risk of causing some painful reaction, the danger of a burn having been fully explained to the patient.

The current was generated by a static electric machine. The tube was a "Gold Medal," No. 3572. It was high most

of the time. At first the tube was placed at six inches from the patient, but later it was brought as near as three inches. The shoulder and face were protected by a lead mask. The first seance was ten minutes, but the time was increased to twenty, and later, thirty minutes. A few applications were made on alternate days, and after that were given daily. Occasionally the reaction was uncomfortably severe, and the treatment had to be suspended for a few days. At no time was there anything approaching a burn, nor was there any serious discomfort.

No black spots appeared after the first exposure, and after the third there was apparent improvement, and the skin had entirely cicatrized in two weeks. The infiltration gradually faded away. The last place to be affected was just behind the angle of the jaw. It occurred to me that the bone might be protecting it. The position was so changed as to allow the rays to come from behind, after which the place soon softened and disappeared.

By the last of July there was no evidence of the disease except the cicatrix. The applications were made once a week for another month, and now we have him report once a month. The growth never occasioned severe pain, but there was a drawing, uncomfortable feeling. This disappeared as soon as the treatment was begun, but would always return if it were suspended for a few days.

There was another interesting feature worthy of mention. In adjusting the lead mask, he often steadied it with his hand, so that two fingers were exposed to the ray They became very red and shed their nails. This shows that the nutrition of the tissues is profoundly affected by it. The fingers, since guarded from exposure, are regaining their normal condition.

The tumor removed at the operation was hardened and examined by Dr. William R. Davidson, who made the diagnosis of alveolar melanotic sarcoma. A specimen was also sent to Dr. B. F. Cline of the Post-Graduate Medical School of New York, who confirmed the diagnosis.

We have now under treatment a number of cases, some of whom show improvements, but the time is too short to judge of the effects. Two of them have been entirely relieved from pain.

We had considerable trouble with our tubes, five in all; they would become too high when much used. Baking helped them sometimes, but not always.

Phototherapy opens up a very interesting field for investigation, which I will not here discuss, but briefly report a few studies we have made. It does not seem to me that theories can be of any great value while our information is so meager. Let us gather the facts first.

To me the most important question is whether or not the *x*-ray is germicidal in its action. The parasitic origin of cancer is not established, although the evidence lends some probability to it, and whether it is or not, the effect of the ray on germ life comes up in its application to a wide range of diseases. If we could kill germs in tissue without destroying it we would have a most potent remedy.

In conjunction with my associates, Drs. James Welborn and Leartus Owen, the following experiments were made:

EFFECTS OF X-RAYS ON BOUILLON CULTURES OF PYOGENIC GERMS IN TEST TUBES.

August 9—Three tubes of sterile bouillon marked 1, 2 and 3, inoculated from pus of suppurating wound.

August 10—Culture media turbid. Shows staphylococci and diplococci, with methylene blue.

August 11—Nos. 1 and 2 exposed to *x*-ray. Time, 10 minutes. Distance, 12 inches. Tubes 1′ and 2′ inoculated from Nos. 1 and 2.

August 12—Tubes 1′ and 2′ show growth of organisms. Tubes 1 and 2 exposed for second time to *x*-ray. Time, 10 minutes. Distance, 12 inches. Tubes 1″ and 2″ inoculated from 1 and 2.

August 13—Tubes 1″ and 2″ show growth of organisms. Tubes 1 and 2 exposed 20 minutes to *x*-ray Tubes 1‴ and 2‴ inoculated from 1 and 2.

August 14—Tubes 1‴ and 2‴ show growth of same organism as the original tubes.

The glass of the tubes seems to obstruct the passage of the rays, giving a dark shadow with the fluoroscope. Hence, we concluded to expose cultures without the intervention of glass.

EXPERIMENTS CONTINUED WITH BOUILLON GELATIN MEDIA IN PETRI DISHES.

August 16—Three plates, 1, 2 and 3, inoculated from pus of carbuncle, showing staphylococci.

August 18—All three plates show extensive growth of the staphylococci and also a fungus.

Plates 1 and 2 exposed to *x*-ray for 30 minutes. Distance, 10 inches. Covers were removed from plates during exposure.

After exposure three culture tubes, 1′, 2′, 3′, were inoculated from plates 1, 2, 3.

August 19—Culture tubes 1′, 2′, 3′ all show cultures of organisms.

EXPERIMENTS WITH RABBITS.

Two rabbits inoculated in each hind leg with pus showing staphylococci and diplococci.

Localized abscess resulted at the site of each inoculation.

Rabbit 1, exposed to *x*-ray for one-half hour.

No change resulted in abscess, but rabbit died on second day.

September 29—Rabbit 2, exposed for one-half hour, the rays being directed on the right leg.

October 1—Rabbit in good condition. Infection the same. Exposed right leg one-half hour.

October 3—Abscesses are much diminished, but not more so in right leg than in left.

In conclusion I would again remind you that all our work in this line is new. Further experience will be required to determine the exact position of the *x*-ray as a curative agent, and the permanency of its effects. It will be very interesting to study the method of its action, and doubtless many improvements will be made.

In the meantime we have much to encourage us, for if only a small proportion of hitherto incurables are rescued by it, we will be well repaid for the trials so far made.

I can not close without the remark that while this treatment is still under investigation we should not forsake previous, well-established principles. Growths should be excised where accessible and all other established means of relief should be employed, and after that the *x*-ray.

But in all cases not amenable to other methods the *x*-ray should be given a trial.

MORPHIN AND COCAIN INTOXICATION.*

GEORGE P. DALE, M.D.
DAYTON, OHIO.

A few years ago I had occasion to observe that the prevalence of the several drug habits, notably morphin and cocain, was on the increase, especially among that class of people found in the charity wards of the public hospitals.

The victim of one or the other of these drugs becomes such after a somewhat different path. Cocainism is more quickly acquired, cases being on record of cocain eaters in Calcutta who have raised their dose from 1 to 12 grains in a month's time. This, while it is exceptional in this country, is frequent in India and other tropical countries, where the habit is very prevalent. The doses may be enormously increased, and 30 to 40

* Read before the Montgomery County Medical Society, Oct. 3, 1902.

grains a day is not uncommon. The habit is on the increase, the drug often being given by physicians as a cure for morphinism, and is also greatly used for its sustaining virtues in physical exertion.

Its irritating effects consist of a briskness of perception and removal of fatigue, but are very temporary, and unless the dose is soon renewed are quickly followed by depression. Later insomnia and anorexia are noted, followed by an increase of the temporary prostration, diarrhea, and fits of semi-consciousness may appear, and there is loss of the power of control. Later the face becomes sallow, eyes sunken and there are emaciation, impairment of the eliminating functions and loss of memory. The will becomes weakened to the point of imbecility and the delusion of persecution is often seen.

The morphinomaniac acquires his unenviable state after a longer period of drug taking than the cocain fiend. With his syringe and a case of tablets he is a familiar object possessed of a vice scarcely less than that of alcoholic drunkenness. He begins with feelings of satisfaction and perfect comfort, which continue as long as the drug is taken in sufficient amount. He is known by his disorderliness and is usually a clever and often an interesting person full of schemes which never materialize. There will be gradually weakening of the moral sense, depravity and indecency. As the necessity for increased doses becomes more urgent the disturbances of general health are manifest. He becomes restless, irritable, has disturbed sleep, deranged appetite and digestion; is sallow, emaciated, gray and prematurely aged and even a young person may appear wizened and haggard. He may die cut off by some chance malady, but often from extreme exhaustion. Allbutt says:

The slavery of coca is worse than that of morphia, it is more destructive of mind and body and harder to put aside. The morphinist still retains some desire to defeat his enemy and is filled with gratitude when the cure is complete. The cocainist is so reduced in intelligence that he neither desires emancipation nor feels any thrill of joy when released. Hence the prognosis in cocainism is worse.

That the changes taking place in the human organism as the result of the constant use of these drugs would be fertile ground for the propagation of criminal ideas can not be doubted. During the past summer I was in communication with a number of superintendents of police and judges of police courts in the large cities in regard to the relation these drug habits bear to the prevalence of crime. Their replies as to the increase of the habits and some of the estimates and statements made are interesting and somewhat startling, and surely indicate that these two drugs have a greater hold on certain classes of people than most of us are aware. Superintendent Muth of Allegheny, Pa., writes:

In my experience with the criminal classes running through many years, the opium habit furnishes an incentive to more crime than any vice to which unfortunate humanity can be addicted. Also that opium increases crime and is the real cause of at least four-fifths of all the offenses committed.

The fact exists that the majority of people of the criminal class who have been most successful in their work have begun as youths, and they also become addicted to a drug habit early in their career if at all.

Crimes committed under drug intoxication are often such as require cunning, boldness and treachery. He has a courage and will he would not possess were he not under such influence, and he also exhibits a recklessness and "don't-care" feeling that carries him deeper in his work than if his mind were normal. This may cause him to commit grave offenses, but it is usually the smaller crimes, as larceny, assault and battery, etc., that are committed under drug influence. Often small thefts are done, not for the sake of the theft itself, but for the purpose of obtaining money to buy more "dope."

The association of drug habits with chronic alcoholism varies. Probably more often than not they coexist, but cases are frequent where after the drug habit is established the taking of alcoholics is discontinued. The victim often begins taking a drug by putting it in beer or whisky. One judge says: "One hundred per cent. more crimes are committed by cocain fiends than by persons who are addicted to the alcoholic habit." Quoting again from Superintendent Muth, he says:

I am aware that some writers on crime and its causes attribute the criminal impulse to "alcoholic drinks," to ignorance and to hereditary tendencies. While all these are the causes of many shocking crimes, yet, if complete statistics were gathered they would undoubtedly show that the opium habit is the greatest incentive in the commission of crimes that require cunning, boldness and treachery. In nine cases out of ten the shoplifters are slaves to this habit, and it is only while under the influence of the drug that they can do any skillful work.

We see often cases of drug habit among the well-to-do and wealthy classes, but it is among the lower classes, and especially the prostitute, where it is, I might say, epidemic. It is the negro and the lower class of white prostitutes who take these drugs as a steady diet, and it is estimated that 80 per cent. of these people use morphin or cocain in some form or other.

In a recent article in the *Medical Record*, Perry speaks of the degeneration of the southern negro, assigning as causes the venereal diseases, tuberculosis and insanity. This latter, he says, has increased in the last forty years twenty fold, while the negro population has little more than doubled. This, he believes, is only a small part hereditary insanity, but is due to a removal of the healthy country life and congregation in cities, and in conclusion he gives the drug habits due credit for their work, and says they are greatly on the increase.

Where and how easily are these drugs obtained? In almost every city that cunning, slick individual, the Chinese, operates his opium den, and those who desire a smoke can find ample opportunity, and opium outfits are also frequently found in houses of ill-fame, where if one inmate smokes they all do. The ease with which morphin and cocain can be purchased from the druggist without a physician's prescription is appalling. Some druggists in the "tenderloin districts" rely largely on these sales to keep up their volume of business, and some have even said they could not exist if it were not for the sale of cocain. They keep it put up in 10 and 25 cent packages, and all the user has to do is to ask for 10 cents worth of "coke" and he gets it, and the all-night stores in these districts do a flourishing business in this commodity. The sales of morphin and cocain in small quantities has been very much on the increase the past three years, and those who once become users will, in the majority of cases, continue, and the number who use them constantly is daily increasing. Usually these sales are not even registered, as is required in many states when poisons are sold, but are dispensed as any non-poisonous drug. I can not give the druggist all the censure, but some physicians and many quacks must take due credit for hasty or thoughtless dispensing or prescribing.

That existing laws are not enforced is undoubtedly true, but it is also true that many existing laws on this

subject are not sufficiently broad. A recent enactment as to the sale of cocain in Iowa provides:

No one, by himself, clerk, employe or agent, shall either directly or indirectly sell or give away any cocain or preparation containing cocain except on the written prescription of a registered physician for medical purposes. And no such prescription shall be refilled except on the written order of a physician.

It is this latter clause as to the refilling of a prescription that gives to the physician and the physician only the entire control.

I bring these few facts to your attention, not because of the facts themselves, but with the hope that before long there will be some united effort of the medical profession to control the indiscriminate sale of those drugs that are so antagonistic to the physical welfare of humanity.

1224 W. Third Street.

A NOTE ON THE VALUE OF AUSCULTATORY-RESONANCE AND AUSCULTATORY-PERCUSSION AS AIDS IN DIAGNOSIS.

CARL C. WARDEN, PH.B., M.D.

BATTLE CREEK, MICH.

The purpose of this note is to bring more generally before the profession the art of auscultatory-percussion and auscultatory-resonance. Auscultation and percussion, together with palpation and inspection, have long been the foundations of diagnostic structure, but even with foundations laid we frequently build no higher than the first story because of inaccuracies of interpretation or for the reason that the draught of our plans misleads us. To be able accurately to map out the normal viscera of the body on its surface is a great achievement, but under pathologic conditions the task becomes more difficult and one is not infrequently baffled outright in the attempt. An opportunity to observe the remarkable results to be obtained by a combination of auscultation and percussion was recently afforded in the clinic of Dr. S. H. Habershon, physician to the out-patient department of the Brompton Hospital for Diseases of the Chest, London. Dr. Habershon has made use of the methods for a considerable time to great advantage, and he is entitled to the credit of bringing them to the high degree of perfection they have now attained. Personal experience with the methods has thoroughly convinced me of their value, and it affords me pleasure to commend them to the profession and to place credit to the tireless worker who has developed them.

Auscultatory-resonance was evolved from auscultatory-percussion, and the latter term is sometimes loosely applied to it. It is assumed that diagnosticians generally are familiar with the method of auscultatory-percussion, which consists in placing the stethoscope over the area of the viscus to be outlined and percussing lightly with the finger tip in converging lines toward its margins. Each organ gives forth, as soon as the percussing finger reaches its limits, a tone that is characteristic and of the same quality all over the surface area of the organ, depending in quality and intensity on the size and density of the organ.

If, now, one substitutes for the percussing finger a vibrating tuning fork it will be observed that a musical tone is transmitted to the ear through the stethoscope. This tone varies in intensity, quality and character with the size and density of the subjacent organ. If a stethoscope be placed over the area of the liver on the anterior wall of the thorax and the stem of a vibrating fork be placed lightly on the skin in the same area, there will be heard a note of definite quality that remains the same so long as the fork does not progress beyond the liver borders, but which diminishes slightly in intensity the further it is moved from the bell of the stethoscope. When the fork is moved beyond the liver margin, up or down, the tone suddenly changes entirely in quality and intensity. So with every viscus. Each organ transmits a characteristic tone of a definite quality and intensity, depending on the form, size and density of that organ. A musical ear is not essential, though it must be confessed that one so gifted will be able to appreciate finer gradations of tone.

LUNGS.

To apply the method, for purposes of illustration, to the outlining and examination of the lungs, let us proceed as follows: Select a tuning fork having a handle conveniently long and that is pitched to C or A, preferably the latter (435 vibrations). Place the bell of the stethoscope over the right lung anteriorly, as at

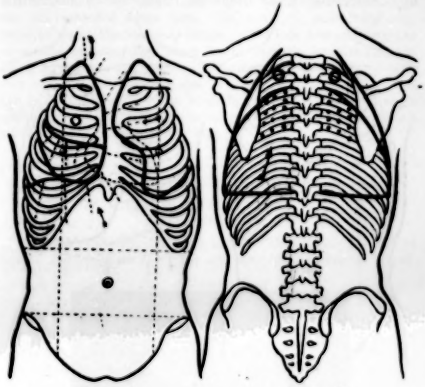


Figure 1. Figure 2.

O in Figure 1, set the fork in vibration and rest the handle lightly but firmly on the skin outside the lung area and progress rapidly, with short intervals, in a straight line toward O. When the margin of the lung is reached the musical tone that reaches the ear is heard suddenly to alter in quality and intensity, and from a muffled, distant character, it becomes resonant, clear and close to the ear. At whatever point the line of the advancing fork crosses lung margin the same characteristic tone is heard. With these manipulations the pressure of stethoscope and fork should be uniform, or as nearly so as possible, avoiding firm pressure one moment and light pressure the next. In this manner the boundaries of the lung may be made out and outlined with pencil on the skin. As the fork approaches the lung across the liver area the lung tone will become apparent so soon as the lowest margin is reached, modified slightly in intensity owing to dense liver beneath, but true in quality.

If the stethoscope be held at O it will be possible accurately to outline the cleft between upper and middle lobes of the lung by proceeding in a manner similar to that detailed above, shown also in Figure 1. The lung as a whole has a definite, characteristic resonance and

each lobe has also a tone of its own depending on the difference in size between them. The line of demarkation between the lobes is to be made out equally well at the back, Figure 2. The borders of the left lung may be sketched in the same manner, and it is interesting to observe how well one may map out the portion excavated for the heart. If a portion of lung is consolidated or contains a cavity the affected area will give an altered note, a consolidated lobe yielding a tone similar to that of the liver, while a cavity gives forth a peculiar loud resonance, close to the ear, corresponding to the "amphoric" breath sound. Pleural effusions and mediastinal growths may be made out with great precision.

The loudness of tone heard when stethoscope and fork are placed over the same rib or over the sternum may sometimes lead one into error, but practice will diminish the chances of going astray. It is to be remembered that to obtain best results the stethoscope always should be placed over the viscus to be outlined and the fork brought toward it; unwise is it to attempt to outline by progressing away from an organ or to determine on the margin of a contiguous organ in such manner. Take each viscus separately.

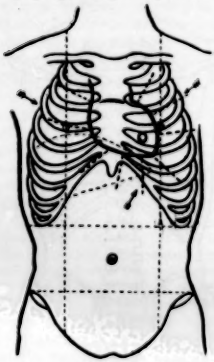


Figure 3.

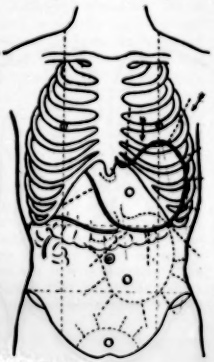


Figure 4.

HEART.

To outline the heart we proceed in practically the same manner; the apex beat is located, the stethoscope placed over any convenient portion of the heart area and vibrating fork made to approach in converging, stellar lines, Figure 3. It will become apparent that the line of separation between liver and heart is very well marked, determinable without difficulty and may be verified later by outlining the liver. It is affirmed that in some instances it is possible to make out the septum of the heart by this method, but the writer has succeeded, as he thought, in one instance only, where there existed a marked concentric hypertrophy. Where dulness in the fifth right intercostal space, parasternal line, points to fluid in the pericardium and where the triangular area of precordial dulness indicates effusion, this method is of great value in determining definitely thereon, since by means of it we are able accurately to map out the dulness and check over the results of ordinary percussion. It also is available in those cases of aneurism "with symptoms," aneurisms of the second portion of the aorta which are often difficult to make out.

LIVER.

Auscultatory-resonance and auscultatory-percussion are very valuable in determining the outlines of the liver, Figure 5. Given a case where the lower liver dulness is obliterated because of a peritoneal cavity distended with gas. Percuss downward over the thorax in the usual manner until dulness is reached, place the stethoscope over the dull area and proceed as indicated in the figure.

In several instances one has been able to verify findings at autopsy where during life the border could be made out by no other means. When enlargements of the gall bladder exist they become apparent often when conditions do not permit of their discovery otherwise. No matter how obese the patient the method is applicable. Only recently the spleen was accurately outlined in a patient weighing 230 pounds in whom it was impossible either to palpate the organ or to elicit dulness by ordinary percussion. Generally speaking the outlines obtained by auscultatory-resonance coincide nearly with the areas of deep dulness.

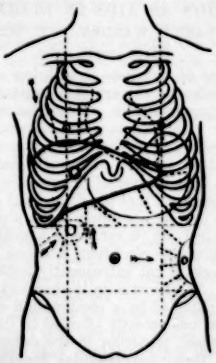


Figure 5.

STOMACH.

With regard to the stomach, it may be said that the methods already described will settle many perplexing points. The stomach gives out resonance peculiar to itself, contrasting sharply with the tones of heart, liver, spleen and colon. When the stomach is of normal size and in normal position the greater curvature may be outlined readily (Fig. 4), but when the organ is dilated or prolapsed or when these conditions coexist the method serves to best advantage. I have been able to verify results in such cases by dilating the stomach with air and by the use of the diaphane, when it became apparent that the slight deviations from the contours already traced were the result, not of error in the method, but rather of further displacement of the organ by the air or water introduced. The method has availed frequently in post-operative cases where there existed a suspicion of a full and dilated stomach, a condition to be dreaded, and one has been able to distinguish between such a status and a dilated colon. It is such cases that require nice decisions on the part of the physician since so much depends on proper therapeutic measures.

OTHER USES.

The existence of small amounts of intraperitoneal effusion may be demonstrated, as shown in Figure 5.

Areas of fibrinous exudate in the abdomen, tumors, distended bladder, pericecal inflammatory masses, aneurisms and splenic enlargements yield their outlines to auscultatory-resonance. Of its value in the topography of the kidneys I have not had opportunity to convince myself. Each method of precision has its limitations, but by a systematic use of all of them we may arrive at conclusions. Auscultatory-resonance or percussion is not intended to supplant any of the older methods. It should be used to check over results obtained by ordinary procedure and as an extra aid in the unravelling of knotty skeins of evidence.

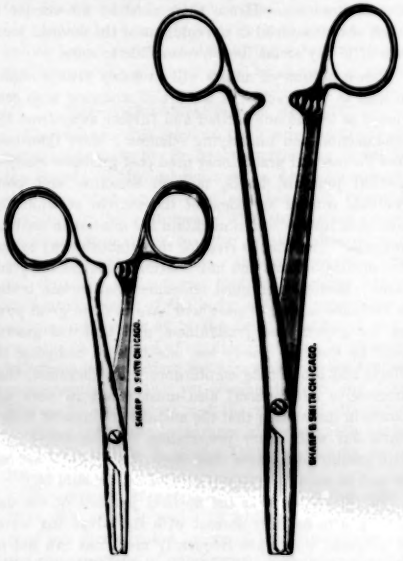
A conscientious investigation of their merits will convince one that their practice is not esoteric, not a fad, but a legitimate and valuable aid to diagnosis.

New Instruments.

A NEW HEMOSTATIC FORCEPS.

WELLER VAN HOOK, M.D.
CHICAGO.

It is rare to find a hemostatic forceps, as supplied in the ordinary instrument shops, which will last through more than a dozen ordinary operations without extensive repair. The selection of the proper instrument is frequently impossible because most of the instrument dealers carry in stock only the poorest constructed instruments, made by large factories in Germany. The models selected by these manufacturers are frequently such as have many excellent points, but, owing to



failure in some minor particular, the instrument soon deteriorates.

I have had an artery forceps made which seems to combine a number of useful qualities. The forceps are made in two sizes. The dimensions of the smaller size are the following: total length, 5¼ inches; distance from lock to point, 1¾ inches; distance from lock to proximal end, 3½ inches. The dimensions of the larger forceps are: total length, 7¼ inches; distance from lock to point, 2 inches; distance from lock to proximal end, 5¼ inches.

No single new feature is introduced into the design of these forceps, but it is believed that the combination of old points of construction will make these instruments more satisfactory and durable than those commonly found on the market. The forceps are provided with mouse-teethed extremities and serrated jaws. After the plan of Doyen, they are made to meet first at the points, the jaws coming together gradually from before backward as increasing pressure is applied on the handles. Sufficient elasticity of the steel is provided to enable one to get the advantage of this principle. The branches are made sufficiently heavy, so that the shearing strain will not readily wear them out. The catches are unusually deeply grooved, preventing their readily slipping apart. The branches are so set that they lock firmly on the first notch. The rings are beveled, so that one may easily apply the rather firm pressure necessary to close the strong instrument. It will be noted that the length of the jaws in proportion to the length of the handles is short. This serves two purposes: it gives the operator greater leverage; and second, it gives greater strength to this part of the forceps, where so frequently lightness of material and length of jaw cause the forceps to twist and the ends of the instrument to turn over like a crossbill.

A most important point about these forceps is the return to the old-fashioned screw lock. The screw is made especially large to resist the shearing strain. This lock has not only the advantage of being very much firmer, but has the advantage of being adjustable for wear. The writer uses this lock for scissors also for the same reason. The objection that the forceps can not be taken apart for cleaning is trivial, since boiling in sodium carbonate (ordinary sal-soda) will remove the materials which usually constitute the dirt.

AN IRRIGATING STAND.

WALTER E M. RANCHOUS, M.D.
COLUMBUS, OHIO.

The accompanying illustration shows an irrigating stand of use to the venereal specialist and also to the general practi-

tioner who has much to do with the irrigating treatment of gonorrhea in the male. It will enable the physician to get conveniently near his patient and irrigate without soiling the clothes of either party, since there is no splashing of the returning fluid other than that which is the receiving basin will accommodate.

1273 N. High street.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, MAY 2, 1903.

THE JOURNAL, THE GENERAL PRACTITIONER AND MEDICAL PROGRESS.

From time to time THE JOURNAL receives letters from various parts of the country in which the writers point out that in their opinion THE JOURNAL "fails to meet the needs of the general practitioner." It has been complained that "the articles are mainly on subjects of interest only to the specialist"; that the papers read at the annual meetings "are way beyond the average man" in certain respects; that those who endeavor to teach the profession by writing articles "obscure their ideas by coining new words'" or by using terms not found in dictionaries hardly a year old.

It is not to be understood that these views are those held by even a majority of the readers of THE JOURNAL who express themselves in regard to their impressions of its usefulness. These views are, however, heard sufficiently often to merit some notice. They seem to represent the feelings of a certain well-meaning and earnest group of men in the profession whose sincerity can not be doubted and whose wants it must be the aim of every representative medical journal to fulfill according to the best of its ability and resources. We believe, however, that any journal would fail in this undertaking if it did not give prominent and full attention to those parts of the large subject of medicine in which progress is being made. The immediate fruitage of much newly-won knowledge depends in large measure on the widest possible diffusion of that knowledge and of the detailed investigations that have led up to it. Of all existing agencies for the dissemination of results of medical research the large weekly medical journals are the most influential because reaching the largest and most diversified circle of readers at the most frequent intervals. It stands to reason that of the great mass of material thus presented there must be a great deal that seems strange and devoid of direct benefit to the man who is absorbed by the exacting and laborious details of general practice with little leisure for careful thought and study. And there are also in every vocation a certain number of men, fortunately a small number, who really are annoyed by the unrest and uncertainty incident to progress. They prefer the dogmatic style of statement, which makes things so perfectly plain because it is assumed that everything is settled definitely and permanently. This mental attitude is hard to overcome and new truths make little or no impression on that sort of men. It is not intended to say that the dissatisfied readers of THE JOURNAL belong to this unfortunate class, the existence of which can not be denied, however. In the early days of bacteriology a great deal was said in protest against the rapid change of views in regard to many diseases, their causes and their treatment, and ridicule was bestowed freely on the germ theory. A good deal of unwillingness to accept freely the general teachings of bacteriology still exists in the minds of many respected practitioners who graduated before the days of the practical use of the microscope and the laboratory. And naturally many of these men are wholly unprepared to give sympathetic and interested hearing to the most recent ideas and theories in regard to the complex problems of immunity and cytotoxic action. And so it must also be in the other departments of medical science. The little modicum of knowledge imparted by the medical college years ago in the case of many, perhaps the majority, did not furnish sufficient basis for intelligent general comprehension of the rapid growth that has been and is taking place in medicine. Physiology as taught to-day would hardly be recognized as physiology by those who listened to a set of lectures or two twenty years ago and then dropped their interest in the subject. Since then physical chemistry, physiologic chemistry and pharmacology have developed. Corresponding changes are taking place in many of the clinical branches. Hence there need be no wonder if much of the material in the columns of the medical journals of to-day seems incomprehensible to some.

This condition of affairs will probably always obtain so long as the practice of the art of medicine is so conducted as to lead one further and further away from the fundamental and underlying sciences. More than ever does the medical practitioner need post-graduate study—medical journals, books, medical societies, and post-graduate courses are some of the sources at which he must seek inspiration to maintain his interest in medical progress. The time is ripe for the establishment by our best medical schools and universities of courses for graduates. Medical men must remember that certain truths in medicine as well as elsewhere have in them great powers for growth and fruitfulness, and that the growth must be watched closely lest one fails to recognize its effects and broadening significance. Furthermore, that progressive development also must result in such advances in instruction that the medical graduate of to-day starts out with better preparation for the future and with greater advantages than those of us of the past can be said to enjoy. Certainly this is as it should be.

For the reason that the medical journals of the day must aim to be fully abreast with the advancing waves of progress, words are frequently used that can not be found in "dictionaries hardly a year old" because dictionaries do not regulate the progress of science. As new phenomena are discovered new names become necessary. It is frequently said and with truth that nowadays text-books are antiquated when published, so rapidly does knowledge in many branches accumulate. But when all has been said that there is to say in favor of

progress, of development, of the new in medical sciences, the fact remains that simplicity and uniformity of nomenclature are most highly desirable at the same time as it must be acknowledged that they are, from the very nature of things, exceedingly difficult to secure. We believe, too, that the protests against the writers who "obscure their ideas by coining new words" in many cases are fully justified. Medical writers are prone to forget that in medical writing it is ever a golden rule to clothe the ideas in the simplest form, "to say all he has to say in the fewest possible words and the plainest words possible or his readers will misunderstand them." Nothing is gained by the employment of strange words of Greek or Latin derivation when plain English can be used just as well. The constant aim should be to state so clearly what one has to say that there can be no danger, so far as the language used is concerned, of going over the heads of the largest class of the readers of our weekly journals, namely the general practitioner, who most needs the instruction and information it is hoped to convey. Medical as much as any other writers should try more to adapt themselves to the needs of the average reader. It is plain that by so doing they will increase the usefulness of their efforts and the influence of the medical press. When new and strange terms have to be used an explanatory remark might be added that will make their meaning absolutely clear. In our efforts to increase medical knowledge let us not lose sight of the duty to try to make that knowledge easily understood by as many as possible.

THE MICRO-ORGANISM OF SMALLPOX.

Elsewhere in this issue we print a report of the communication made by Professor Councilman to the Boston Society of Medical Sciences, in which he announces that the organism of smallpox has been established definitely to be a protozoan with the various cycles of development peculiar to some of that class of micro-organisms, more particularly the microsporidia. It is not stated by our reporter that the organism has been cultivated outside of the body, and the report does not appear quite clear as to the demonstration of the organisms in the blood of smallpox patients, or of animals experimented on before the appearance of the eruption; consequently, it is not yet possible to form any definite idea as to whether or not the means of diagnosis of smallpox before the appearance of the eruption has been furnished, though Professor Calkin's remarks, as published, suggest this.

The manner of entrance of the organism into the body, the route or routes by which it is carried to the local but disseminated lesions of the skin elsewhere and the various stages of development that it passes through during this complicated process remain to be explained. It is to be remembered that the conclusion of Professor Councilman that the cause of smallpox and vaccinia is a microsporidium is in accord with the interpretations of other and earlier observers of certain interesting bodies found within the cells in vaccinia and in the cutaneous lesions of smallpox. From time to time we have referred in these columns to the significance of the so-called Guarniari's bodies that can be studied in the lesions of vaccinia of the rabbit's cornea, and also to Fuchs' recent work on the "Sporidium vaccinale." It will be recalled that Wasielevski demonstrated that the rabbit's cornea could be inoculated successfully with vaccinia from one animal to another through no less than forty-nine generations, and in all the lesions occurred the peculiar intracellular bodies just referred to. He found, further, that when vaccine material was filtered through bacteria-proof filters the characteristic lesions would not develop on inoculation of rabbits' corneæ with the filtrate. From these facts he concluded that most likely the so-called vaccine bodies were the cause of vaccinia.

The results obtained by the Boston investigators seem to extend and confirm the conclusions of Wasielevski and others, and we trust that the announcement just made means that a decided step forward has been made in the study of smallpox. The complete publication of the work carried on in Boston during the last two or three years will be awaited with interest, and any attempt at critical consideration of the conclusions drawn by Professor Councilman and his coadjutors necessarily must be based on a thorough study of their report.

INTRACELLULAR TOXINS AND THEIR RELATION TO IMMUNITY.

During recent years workers in bacteriology have been largely occupied with the study of the soluble products of bacteria and with their action on the animal body. In view of the brilliant results which followed the discovery and investigation of the soluble toxins of the tetanus and diphtheria bacilli, it was natural to seek similar poisons in connection with the other pathogenic bacteria with the hope of also obtaining specific antitoxic agents to combat them. However, it soon became apparent that many bacteria did not exert their injurious effects through the agency of soluble toxins, and efforts to obtain curative sera by injections of fluid cultures have met with complete failure in the case of most pathogenic bacteria.

More recently the bacterial cell has again claimed more attention, and when the required technic shall have been worked out, it is not too much to hope that results of great importance will be arrived at. Vaughan[1] and his pupils have already contributed valuable results in studies of bacterial cells, and Vaughan has devised some very useful technical methods. They have found the dead cells of each of the pathogenic and non-pathogenic bacteria studied to be poisonous to rabbits and guinea-pigs. The intracellular toxin of a non-pathogenic germ may be even more potent than that of a highly infectious one. Vaughan concludes that the intensity of the infectious properties of a micro-organism is not always measured by the potency of its toxin, but rather depends on the conditions for its growth in the animal

1. Trans. of the Assoc. of Amer. Phys., 1902, xvii, 243.

body being favorable. He does not think that the intracellular toxins exist as such in the cells, but are atomic groups or side chains of the complex molecule. They can be detached from the cell substance only by the action of agents which break up the complex molecule.

Macfadyen and Rowland,[2] in the Jenner Institute of Preventive Medicine, London, have been making some very interesting studies of the biologic properties of the intracellular constituents of the typhoid bacillus. They have elaborated a very ingenious technic for obtaining a "typhoid plasma" from typhoid bacilli as near like the living fluid of typhoid bacilli as possible. The bacteria are obtained in a pure state, and rendered brittle at the temperature of liquid air, when they are triturated without the addition of any foreign substance and the fluid contents of the cells allowed to escape. If such intracellular juices of the typhoid bacillus are injected into the monkey, a serum is obtained which possesses both antibacterial and antitoxic properties. Such a serum is curative and preventive as regards the typhoid bacillus and also the intracellular toxin present in the same organism. If these results are confirmed, it will be most important to know whether the intracellular juices of other bacteria, especially of those which do not produce soluble toxins, will give rise to bactericidal and antitoxic substances when injected into suitable animals.

EDUCATION AGAINST TUBERCULOSIS.

The methods adopted by the Phipps Institute for Tuberculosis in Philadelphia deserve the attention of those who are interested in the treatment of poor consumptives and in the prevention of the spread of tuberculosis in our large cities. It is needless to say this work represents one of the most humanitarian purposes that a philanthropist could set before him and merits emulation on the part of those who are in a position to lessen human suffering by direct means. The Phipps Institute methods are not claimed to be original, though they contain some very practical original suggestions. On the contrary, one of the great merits of the system employed is the conservative eclecticism that characterizes it. The most famous institutions for the treatment of tuberculosis, in this country and abroad, have been visited or studied, with the idea of selecting what appeared most commendable in their various characteristic features.

The treatment of the patients is practically limited to the application of the principle that abundant fresh air and a plentiful supply of nutritious food represent the essentials of rational therapy for tuberculosis. If these can be secured, drugs may be almost entirely dispensed with. It is frankly recognized that for poor tuberculosis patients an abundance of nutritious food is not always easy to secure. Part of the income of the large fund provided by the generosity of Mr. Phipps is applied, then, to the provision of the most highly nutritious food easily available and that does not require much care in its preparation. Consumptives who declare that they are too poor to pay for proper food are given daily twelve eggs and three quarts of milk. These are delivered at their residences. The amount of milk is later increased to five quarts, if the patient is able to take that amount with benefit. The usual advice is to take the eggs as nearly raw as possible. Beside the dozen of eggs and three quarts of milk, one full meat meal is insisted on as a necessary part of the daily diet.

With regard to fresh air, patients are advised that the coldest outdoor air is not likely to prove injurious, and that there is more danger for those associated with him in a closed warm room than in a cold open one. The windows of sleeping apartments are to be left constantly open in all weather. If arrangements can be made to that effect, the patient is advised to spend six to eight hours per day reclining in a steamer chair on the roof of his dwelling house, or, if this is not possible, on a porch or in a bay window with the windows open.

Such directions are more suitable to Philadelphia, where many people live in their own houses, than to cities where apartment houses are more frequent. In a word, the regulations in force in sanitariums for the treatment of tuberculosis in this country and in Europe are modified to suit the patients' environment. Consumptives are warned of the danger of going into crowds and against riding in crowded cars, where they may acquire secondary infections.

At each visit to the dispensary, patients are warned with regard to the dangers of spreading tuberculosis, are questioned as to their habits, and are drilled in the taking of precautions that lessen the risks of infection for others. It is always made clear to them that the taking of such precautions is also helpful to themselves, by avoiding the possibility of personal reinfection. The care of the sputum is especially insisted on and minute directions with regard to its disposal frequently repeated. Patients are warned that their clothing may readily carry quantities of tubercle bacilli, and they are shown the necessity for scrupulous cleanliness. The clothes of tuberculosis patients are gathered at suitable intervals and thoroughly sterilized.

It would seem that practically all of the important problems in the prevention of the spread of tuberculosis in large cities are thus deliberately faced and at least an attempt at their solution made.

The educative influence of such an institution on the masses can scarcely be exaggerated. From the very beginning the important lesson is taught that not drugs but fresh air and food are the remedies for tuberculosis. This feature promises to do more to lessen the nostrum evil, with its unfortunate sequelæ, especially in tuberculosis, than any other remedial measure that has been suggested. Well-directed charity and rational instruction seem to vie with each other for first place in the methods thus introduced. We shall hope to hear of great benefit secured by the very practical system thus initiated.

2. Brit. Med. Jour., March 28, 1903, 757.

THE PREVENTION OF RABIES.

It is said that in the last ten years 91 persons have died from hydrophobia in Chicago. Many other parts of the United States appear to have been afflicted with this disease quite as extensively, and there is no indication that in the last decade rabies has become any less frequent in the country at large. It must be confessed that the horror in which this disease is held by the popular imagination is probably fully warranted by all that is known of its clinical manifestations. We fancy there are few ways of leaving this world that one would choose less willingly than an attack of hydrophobia.

There is unquestionably less excuse for the continued existence of this disease in the heart of our crowded American cities than for that of many other forms of infectious disease. It is well known that the simple enforcement of existing regulations regarding the muzzling of dogs would be sufficient to stamp out the infection in all the denser centers of population. The remarkable experience of Great Britain in the matter of dog-muzzling is often referred to, but, in view of existing conditions, it can not be given too great or too frequent publicity. The official reports of Great Britain show the following relation between cases of rabies and the enforcement of muzzling:

YEAR.	CASES.
1887	217
1888	160
1889	312

The alarm caused by this increase led to the adoption of muzzling, with the following result:

YEAR.	CASES.
1890	129
1891	79
1892	38

The muzzling ordinance was then relaxed owing to misguided opposition, with the result of increasing the number of cases:

YEAR.	CASES.
1893	93
1894	248
1895	672

This rapid increase caused a revulsion of feeling and brought about a reversion to the former restriction:

YEAR.	CASES.
1896	438
1897	151
1898	17
1899	9
1900	0

An experiment so frequently repeated and confirmed possesses convincing weight and deserves to be taken into serious consideration by all municipalities in which a dog-muzzling ordinance now exists, but has been allowed to lapse into desuetude. It is worthy of note that the argument embodied in the statistics just quoted has been deemed cogent even in England where, as is well known, the sentimentality of antivivisectionists and other philozoists has in the past proved powerful enough to cripple scientific research and interfere in other ways with the real welfare of both man and the lower animals. Since it is plain that enforced muzzling will speedily eradicate hydrophobia from any given locality, there seems to be good ground for urging the general adoption and persistent enforcement of this measure. This should be urged in season and out of season by those interested in safeguarding the public welfare.

At a recent meeting of the Chicago Medical Society, where this question was discussed, one of the speakers expressed skepticism regarding the value of the Pasteur method of treatment of hydrophobia. It is not clear on what grounds this incredulity is based, since the evidence in favor of the beneficial results achieved by this treatment is almost, if not quite, as massive as that in favor of the antitoxin treatment of diphtheria. The statistics given out by the authorities of the Pasteur Institute at Paris for a series of sixteen years, from 1886 to 1901, show that out of 25,986 persons treated during this period there were only 112 deaths, or a mortality of 0.43 per cent. A large proportion of these persons had been bitten either (1) by an animal demonstrated by subsequent experimental inoculation to have been rabid, or (2) by one pronounced rabid by a competent veterinarian. The last annual report published by the Pasteur Institute[1] shows that in 1901 there were treated 171 persons belonging to the first category and 785 to the second, all others for that year numbering 362. The total number of deaths for this year was only 5. No deaths occurred among persons in the first category, and but four among those in the second, a total mortality percentage for these two groups of 0.42.

A conservative estimate of the proportion of persons who are bitten by rabid dogs who subsequently die with symptoms of hydrophobia places the number at 16 per cent., and in some series that have been reported a much higher percentage than this is recorded. The difference, therefore, is overwhelmingly on the side of the Pasteur method of treatment, and the figures obtained at the Paris Institute have been fully substantiated by the experience of the scores of similar institutes that have been established in various parts of the world.

WAITING-ROOM LITERATURE.

In one of his recent fables, George Ade quotes an old physician, who advises a young man not to take up the profession of medicine. Among other evidences of the unprofitableness of the study, the physician remarks that "we are most of us held down so close to the carpet that we have to buy last year's magazines to put in the waiting room." Mr. Ade is certainly an observer and has probably frequented physicians' waiting rooms not a little to make such a generalization as this. There are many of these rooms where the literature left to pass the patient's time is not only antiquated, but often suggestive of contagion, in view of the handling, etc., by the patients who pass in and out. We have often been a little timid about too close handling of some venerable documents on the waiting room tables of dermatologic specialists, and have sometimes thought it might be better to have none at all for the peace of

1. Annales de l'Institute Pasteur, 1902, 16, p. 452.

mind of apprehensive individuals. It is a good thing to have magazines, current illustrated periodicals, etc., on the waiting room table, for the patients would be more likely to patiently await their turn, but there should be either a certificate of disinfection attached to each periodical or the date of publication should show that the matter is moderately new, not lapping too far over in the past century.

THE INTERNATIONAL MADRID CONGRESS.

According to an editorial in *El Siglo Medical* of April 5, the preparations for the International Medical Congress were in a very unsatisfactory condition even at that late date, and it feared that much would be found open to criticism at the time of the meeting. Apparently there has been a lack of enthusiasm and of active co-operation of the medical profession in both the city of Madrid and the other provinces, and to such an extent as to seriously compromise the success of the congress. Our contemporary also seems to anticipate criticism of some of the local institutions, educational and charitable, by a pretty severe condemnation by itself of their present conditions. It is a fact that these international congresses are a heavy draft on the profession of the country entertaining them, and this point has been specially raised in connection with previous meetings. Spain can hardly be expected to do all that has been done on some former occasions, and allowances should be correspondingly made for some deficiencies that might not be expected elsewhere. We are sorry to say that the fears of the editor of *El Siglo Medical* are being realized, according to our correspondent in Madrid. He cables that arrangements show lack of systematic organization and that it is almost impossible to get information or co-operation in making report of the scientific work.

THE INDEX MEDICUS.

We are informed on good authority that the "Index Medicus," the first number of which under the new auspices has just appeared, is not receiving its due support, that 251 copies covers the entire subscription list among the profession, both abroad and in this country. That would bring in a return of only $1,255, with an expenditure of about $12,000 per annum. The Carnegie Institution has generously devoted $10,000 per annum to the publication of the index for three years and it was intended to continue this indefinitely, provided sufficient interest is shown in this enterprise, which has in the past redounded so much to the credit of our country. The "Index Medicus" should go to every place where at least an attempt at clinical or research work is being done, to every insane asylum, to every large hospital, to every medical educational institution, and, in our opinion, it is almost an indispensable adjunct to the editorial work of every medical journal worthy of the name. If it can receive subscriptions from each of these sources, it would not only relieve the Carnegie Institution of its expense, but furnish a considerable surplus for its enlargement and increased usefulness. It is not an American publication alone. It should receive equal patronage from every part of the world. It is just as discreditable, if not more so, that its subscription list from abroad is not more than double or treble what it is in this country. No person who is interested in medical literature, no one who is attempting to do original work, can wilfully dispense with the aids it can offer. The fault of much of the work that has been done and is still being done throughout the world, especially in some of the institutions in this country, is that so little is known of what others are doing and, consequently, a great deal of human effort is needlessly wasted. Much sciolistic conceit would be also avoided if this publication, with its preceding series and additional data from the "Index Catalogue," could be properly utilized, and medical literature would be a far more satisfactory thing than it is at present. Brown-Sequard, the celebrated French physiologist, used to bitterly complain of the amount of rediscovery of his work that he was constantly seeing in the German literature. It is only by such bibliographies as the "Index Medicus" that much of this can be avoided. We hope the subscription list will be at least quadrupled. The very moderate subscription price, $5, puts it within the reach of everyone who is attempting to do any medical literary work, and no one should attempt that without having at least access to its aid. We do not believe in multiplication of references or unnecessarily elaborate bibliographies, and the rule of verifying one's references by the originals, of course, is a good one to be followed, but there is no better first guide to medical literature than the "Index Medicus" as now presented to the profession.

Medical News.

CALIFORNIA.

State Board Examination.—At the April examinations for license to practice medicine 39 applicants appeared, 25 of whom passed; 12 were rejected and 2 were conditioned.

New Oakland Health Board.—Drs. J. Hamilton Todd, former health officer; Arthur L. Cunningham and Samuel H. Buteau, Oakland, have been appointed members of the Board of Health.

Typhoid at Stanford.—It is reported that a hundred cases of typhoid fever exist in and about Stanford University, Palo Alto, and that two deaths have occurred. The cause is supposed to be infected milk supplied by a dairy in Palo Alto.

Surgeons Sued.—Mrs. Edna Rooney, Oroville, has sued two homeopathic physicians for $25,000 damages on account of the death of her husband. She alleges bunglesome and negligent attention and a mistake in diagnosis by reason of which her husband's left eye was enucleated for malignant disease, the patient dying a few days later.

Personal.—Dr. Samuel E. Latta, Stockton, has been appointed a member of the San Joaquin Insanity Commission.——Dr. Fred W. Colman has been elected health officer of Lodi, vice Dr. E. A. Burchard, resigned.——Dr. S. W. R. Langdon has been appointed a member of the Stockton Board of Health, succeeding Dr. Charles R. Harry, who is going to Europe for a course of advanced study.——Dr. Ernest B. Hoag has been appointed city bacteriologist of Pasadena.

ILLINOIS.

Chicago.

School Moves.—The Illinois School of Electro-Therapeutics has moved into its new quarters at 35 Randolph street.

Suit for Damages.—Mrs. Martha E. Jacobs has sued Dr. Espy L. Smith for $10,000 damages. She alleges that she has been permanently crippled by reason of improper care of a broken leg.

Mikulicz in Chicago.—Dr. Mikulicz of Breslau is in Chicago this week, the guest of Dr. J. B. Murphy and of the Chicago

Surgical Society. He will attend the session of the American Medical Association at New Orleans next week.

Deaths of the Week.—Pneumonia heads the list of deaths for the week with 163, or more than 25 per cent. of the total mortality. There were 64 deaths from consumption; 38 from heart diseases; 30 each from Bright's disease and violence; 28 from bronchitis; 26 from nervous diseases; 19 from measles; 14 from diphtheria; 11 from scarlet fever; 8 from typhoid fever, and 7 each from whooping cough and influenza.

More Smallpox.—Seventeen cases of smallpox were discovered during the week, one of them being a convalescent, the nature of whose disease was not detected until he was well. The remaining sixteen were removed to the isolation hospital before there had been any serious exposure. Thirteen of the seventeen cases—all adults over 40 years of age—had never been vaccinated at all, and four presented old doubtful scars of vaccination performed in infancy.

Death-Rate Still High.—The total deaths recorded during the week were 639, or only one less than for the previous week and 89 more than for the corresponding week of 1902. The average April death rate since 1893 has been 16.25 per 1,000 per annum—the highest being 20.91 in April, 1893, and the lowest 13.84 in April, 1897. For the first twenty-five days of the present April the rate is 18.74 per 1,000, or 35.4 per cent. higher than the lowest and 10.3 per cent. lower than the previous highest.

Warns Again Against Pneumonia and Influenza.—The health department repeats its warning first given in 1898 regarding the gravity of pneumonia and influenza. It emphasizes the necessity of prompt resort to competent medical attention on the first appearance of symptoms, and the importance of isolation of cases, the instant disinfection and speedy destruction of the discharges from the nose, mouth and throat, and other preventive measures which are enforced by all intelligent physicians in the care of other contagious or infectious diseases.

Object to Test.—Medical students at the University of Chicago have protested against the revival of the supplementary examinations on the work of the first two years by the faculty. They designate the examination as "an unnecessary burden and the survival of an obsolete system of medical instruction" and as "an unjust discrimination." The examination is on the entire work of the first two years. It is supplementary to the regular examinations and is said to entail on the students a vast amount of special preparation, which is useless, as they are compelled to take a third examination in the same subjects when applying for license to practice.

INDIANA.

Smallpox.—During March 873 cases of smallpox were reported, with 28 deaths. In comparison with March of 1902 there was an increase of 30 per cent. in area invaded, of 4 per cent. in number of cases, and of 1,300 per cent. in deaths.

Hospital as Memorial of Wife.—Hon. D. D. Dykeman, Logansport, has announced the gift to the city of a hospital to cost $50,000 in memory of his wife, who died in March. He will also arrange that at his death his entire estate will be available as an endowment for the institution.

Indiana Medical College Commencement.—On April 17, a class of 76 received their diplomas as doctors of medicine from Hon. Addison C. Harris, president of the University of Indianapolis, of which the Medical College of Indiana is the medical department. William Lowe Bryan, president of Indiana University, delivered the address to the class.

March Mortality and Morbidity.—The monthly statistics of the State Board of Health shows there were 2,959 deaths in March, an annual rate of 13.8 per 1,000. In the corresponding month of last year the rate was 14.2. Deaths by important causes were: Pulmonary tuberculosis, 432; typhoid fever, 55; diphtheria, 25; scarlet fever, 11; measles, 7; whooping cough, 24; pneumonia, 402; diarrheal diseases, 21; cerebrospinal meningitis, 18; influenza, 88; puerperal fever, 11; cancer, 92; violence, 120, and smallpox, 38. As compared with the corresponding month of last year an increase appears in influenza and violence. Of the total deaths 438, or over 15.8 per cent. were under one year of age, and 797 or 28.8 per cent. were 65 and over. The order of disease prevalence was as follows: Influenza, smallpox, rheumatism, bronchitis, pneumonia, tonsillitis, scarlet fever, pleuritis, measles, typhoid fever, whooping cough, intermittent fever, erysipelas, diphtheria and croup, diarrhea, inflammation of bowels, puerperal fever, dysentery, cerebrospinal meningitis, cholera infantum and cholera morbus.

IOWA.

Smallpox Near Sanborn.—A case of smallpox in a farmhand near Sanborn is reported by Dr. Leary, who is in attendance. This is the first case in this vicinity for a year.

A Test Case.—Dr. Benjamin A. Stockdale, Council Bluffs, has filed suit against the treasurer of state, to recover $250 paid as a license fee as an itinerant physician. In his petition Dr. Stockdale attacks the constitutionality of the law which discriminates between local and itinerant physicians, and charges that the law violates the state constitution and the fourteenth amendment to the constitution of the United States.

Commencement.—Drake University Medical Department, Des Moines, graduated a class of 11, April 22. Dr. A. Raymond Amos, the new dean of the college, delivered the address of the evening, and Dean Lewis Schooler presented the class to General F. M. Drake, who conferred the degrees.——On April 29 a class of 13 was graduated from Sioux City Medical College. Dr. George W. Beggs, president of the board, conferred the degrees.

Webster City's Hospital.—Mercy Hospital, just completed in Webster City, is the property of the Northwest Iowa Conference of the M. E. church. The structure was built by Jacob M. Funk at a cost of $25,000, and was presented on the condition that patients be admitted regardless of race, color, religion or financial condition. The hospital contains more than 40 rooms and will accommodate ordinarily about 35 patients.

KANSAS.

Diphtheria Near Hartford.—Diphtheria is said to be raging in the southern part of Lyon County. It is said that seven out of nine children in one family on a farm near Hartford have died.

Smallpox, Not Bubonic Plague.—The disease reported from Rice County as bubonic plague has proven to be confluent smallpox. Of the first twelve affected, 8 died. The disease has been confined strictly to three towns, Delavan, in the west end of Morris County, and Geneseo and Bushton in Rice County.

New Doctors.—The eleventh annual commencement of Kansas Medical College, Topeka, was held March 27, when a class of 12 was graduated. Dr. John E. Minney, dean of the faculty, presided, and gave a short sketch of the history of the college; Dr. Plass, president of Washburn University, delivered the address to the class; Dr. O. Portis Davis made the address on behalf of the faculty, and Dr. John C. McClintock, president, conferred the degrees.

Temporary Permits to Practice.—Dr. Henry W. Roby, secretary of the Kansas State Board of Medical Registration and Examination, has notified the holders of temporary permits to practice that there is no charge for the temporary permit; that the regulation fees for a permanent license must accompany each application; that the temporary permit must be recorded promptly with the county clerk; that each day it remains unrecorded he is liable to a fine of $50 to $200, and that until his permit is of record, he has no right to practice or to collect fees.

LOUISIANA.

Quarantine Arrangements Complete.—The quarantine arrangements have been completed and the marine inspectors are at their posts in Cuba, Central and South America. Dr. King Holt, Baton Rouge, has been appointed resident inspector at Havana.

Personal.—Dr. Rolando Kuehn, port surgeon at Bluefields, Nicaragua, for 15 years, through many changes of administration and revolutions, and for a time a resident at the leper colony of Molokai, Sandwich Islands, has returned to America to attend the Association session, and is the guest of Dr. Basilidus Lavigne, New Orleans.

Sleeping Car Disinfection.—The State Board of Health has passed a resolution requiring every sleeping car company operating in Louisiana to thoroughly disinfect each sleeping car after every round trip, under such regulations as the board may prescribe, provided that after personal investigation the quarantine committee finds such methods of disinfection necessary.

Louisiana Keeps Her Own Quarantine.—The State Board of Health has decided not to make its quarantine regulations conform with those of the U. S. Public Health and Marine-Hospital Service, or to use the marine-hospital inspectors instead of its own, or to relieve coastwise vessels of the necessity of inspection on entering New Orleans. These changes were suggested by Dr. Lindsley of Havana. The Louisiana board will maintain its own inspectors at all gulf forts where there is considered to be any danger of the importation of disease.

MARYLAND.

Baltimore.

Commencement.—Baltimore University School of Medicine graduated a class of 24, April 21, two of whom were women.

The Crim Sale.—The first three days of the sale of the collection of antiques of the late Dr. Wm. H. Crim terminated on Friday, the receipts being $29,300.

Personal.—Dr. Ira Remsen, president of Johns Hopkins University, was elected vice-president, and Dr. William H. Welch member of council of the National Academy of Services at Washington on April 22.

Fluctuating Mortality.—The fluctuations in the mortality of Baltimore were rather striking. Last week the number of deaths fell to 170, an annual rate of 16 per 1,000, pneumonia and consumption leading with 26 and 22 deaths respectively. One case of smallpox was reported, one of the suspects from Homburgville camp mentioned below.

Control of Tuberculosis.—At a meeting held April 24, for the discussion of measures for the control of tuberculosis, Dr. Herman M. Biggs of the New York Health Department delivered an address on the methods of dealing with the disease in that city. Remarks were also made by Drs. Welch, Osler, Fulton, Thayer, and Health Commissioner Bosley.

Negligence Charged.—Dr. Bosley, health commissioner, charges the health officers of Baltimore County with negligence in not maintaining a strict quarantine at the Homburgville camp near the city where several cases of smallpox have occurred. It is believed that 30 suspects from that camp have been allowed to come to the city. Ten patients have been taken from this camp to the City Quarantine Hospital.

Woman Takes Prize.—Dr. Florence R. Sabin, Denver, Colo., assistant in anatomy in the Johns Hopkins University Medical School, has been awarded the prize of $1,000 offered two years ago by the Naples Table Association for the best thesis of individual research in biology, physics, zoology and chemistry. The award was made by the association at a meeting held at Smith College, April 18. There were 11 candidates for the prize. The work for which Dr. Sabin received this prize was the discovery last year that the lymphatic system arises from the veins. Dr. Sabin graduated at Johns Hopkins in 1900, and is the first woman to receive an appointment as instructor in the medical department. She was a fellow in anatomy there in 1901.

Index Medicus Redivivus.—Drs. William H. Welch and William Osler gave a dinner at the Maryland Club, April 18, to Dr. Robert Fletcher of Washington, editor of the "Index Medicus," to celebrate the revival of its publication. After being published for 21 years this work lapsed for want of support. It has now been resumed through the good offices of Mr. Daniel C. Gilman and Dr. S. Weir Mitchell, who have secured an appropriation for it from the Carnegie Institute of $10,000 per annum for three years. It is understood that the continuation of this amount will depend on the interest taken in the work by the profession. Among those present were Drs. Abraham Jacobi, James R. Chadwick, W. W. Keen, F. P. Henry, Garrison, King and Yarrow of Washington; Acting Surgeon-General De Witt, and Major Kean of the Army, Mr. Marcus Baker of the Carnegie Institute, and others.

MASSACHUSETTS.

Bequests.—Mrs. Phebe R. Sturtivant left $10,000 to the New England Baptist Hospital, located on Parker Hill, Roxbury, Mass.——By the will of John J. Day, Quincy, $5,000 is bequeathed to the Quincy Hospital.

Suit for Autopsy.—A suit for $2,000, brought against the Massachusetts General Hospital for performing an autopsy on a Hebrew, in which the defense claimed that permission was granted, and the plaintiffs declared that by reason of the autopsy certain religious rites were rendered impossible, was decided in favor of the defendant.

First-Aid Training.—At the annual meeting of the Massachusetts Emergency and Hygiene Association, Dr. Grace Wolcott reported 241 patients cared for during the year at the Vincent Hospital and 27 attendants trained in the courses of the training school. Courses of lectures have also been given to firemen and policemen on first-aid and ambulance work.

Disease and Death.—During the week ending April 25 242 deaths were reported in Boston, equivalent to an annual death-rate of 21.52 per 1,000. This increase included 34 deaths from pneumonia; 6 from whooping cough; 20 from heart disease, and 9 from violence. There were 20 cases of diphtheria reported, with 3 deaths; 29 of scarlet fever, with 3 deaths; 11 of typhoid fever, 36 of measles, and 21 new cases of tuberculosis were reported, and 26 deaths from that disease.

Massachusetts General Hospital Report.—The annual report of the Massachusetts General Hospital states that $227,373 was expended during the year. Of this $157,744 was expended for free patients, a sum that is mainly met by special funds and free bed subscriptions; 5,199 patients were treated at an average weekly cost of $17.16; 26,662 patients were treated in the out-patient departments and 4,858 in the accident rooms. At the McLean Hospital for the Insane, in Waverley, which is under the same board of directors, $238,000 was spent for 330 cases, an average weekly cost of $25.99 per patient.

MICHIGAN.

Hospital Site Purchased.—A site at the corner of West Huron and College streets has been purchased by the Pontiac Hospital Association. The ladies in control expect to have the hospital completed this season.

Graduating Exercises.—The Michigan College of Medicine and Surgery, Detroit, graduated a class of 14, April 24. Dr. Hal C. Wyman, dean of the faculty, administered the Hippocratic oath and presented the diplomas.

Open Hospital at Laurium.—The new Northern Michigan General Hospital at Laurium was formally opened April 8. Dr. A. J. Ochsner, Chicago, delivered the address of dedication. The hospital will accommodate 100 patients.

Medical Staff Re-elected.—At the annual meeting of the medical staff of the Saginaw General Hospital, the following officers were re-elected: Dr. Sidney I. Small, president; Dr. Bert B. Rowe, vice-president, and Dr. Elmore E. Curtis, secretary.

"Cuban Itch" at Georgetown.—Ignorant or careless of the danger attending the so-called "Cuban itch," the authorities of Georgetown are said to have paid no attention to the disease which is prevalent in that place. The patients have not been quarantined.

MINNESOTA.

State Board Examines.—Out of 23 applicants for license to practice medicine 20 passed the examination of the State Board of Medical Examiners, and were issued licenses.

Personal.—Dr. Charles Lyman Greene of St. Paul has been appointed professor of theory and practice of medicine in the medical department of the State University of Minnesota.

Object Lesson in Vaccination.—Charles Stevens, secretary of the Anti-Vaccination League of Minneapolis, died from smallpox, April 15. He had frequently denounced vaccination as unefficacious and a barbarous practice.

Smallpox.—In the week ended April 13 there were 162 cases of smallpox reported in the state. Benton Township, Beaver County, furnished 30 cases; St. Paul, 12; and Minneapolis, and Elgin Township, Clay County, each 11.

Medical Course Shortened.—The board of regents of the university has decided to institute a six-year academico-medical course, whereby a student may complete both his academic and medical course in six years, instead of in seven years, as at present obtains.

MISSOURI.

Presentation.—Dr. Max C. Starkloff, health commissioner of St. Louis, was presented with a handsome watch and chain by the employes of the health department, April 23.

Change of Control.—On May 1, at the request of the faculty, the Marion-Sims-Beaumont Medical College, St. Louis, passed under the control of the Jesuit Fathers of the St. Louis University. The terms of agreement between the two faculties are that the university shall contribute $125,000 and control the examinations for entrance. This latter condition is to raise the standard of candidates for admission.

Old Physicians Honored.—On April 14 a banquet was given at the Planters' Hotel, St. Louis, by the St. Louis Medical Society in honor of four of its old members, all octogenarians: Drs. William M. McPheeters, aged 87; William Johnston, aged 88; Simon Pollak, aged 89, and John Bates Johnson, aged 86. The last-named was ill and unable to be present. Dr. William M. McPheeters was graduated from the University of Pennsylvania in 1840, and came to St. Louis a year later. He established the first public dispensary west of the Mississippi River, was a professor in St. Louis Medical College until 1861, when he entered the Confederate service as medical director on the staff of General Price. In 1850 he introduced a resolution in

the St. Louis Medical Society, which was followed by the organization of the state medical society. He was president of this society in 1852; president of the St. Louis Medical Society in 1856, and vice-president of the American Medical Association in 1869. Dr. William Johnston received his degree in medicine from the Medical Department of Louisville University in 1837, came to St. Louis in 1850; was president of the St. Louis Medical Society in 1866, and is still in active practice. Dr. Simon Pollak, a native of Bohemia, received his medical education at the University of Vienna and was given his degree in 1835. Two years later he came to the United States, and settled in St. Louis in 1845. In 1852 he founded the Missouri School for the Blind, and in 1860 the eye and ear clinic at Mullanphy Hospital, which he still has in charge. During the Civil War he served in the American Sanitary Commission. He has been many times treasurer, and once president of the St. Louis Medical Society. Dr. John Bates Johnson graduated from Berkshire Medical College, Pittsfield, Mass., in 1840. A year later he came to St. Louis; was one of the faculty of Kemper College from 1846 to 1854, when he was elected professor of clinical medicine in St. Louis Medical College. He was one of the founders, and once vice-president of the American Medical Association; one of the founders and an early president of the state society, and was a member of the sanitary commission in the Civil War. Dr. Elisha H. Gregory responded to the sentiment, "The Old Guard"; Dr. Woodson Moss spoke on "The New Organization"; Dr. W. G. Moore on "Honor to Whom Honor Is Due"; Dr. Alonzo R. Kieffer on "The St. Louis Medical Society," and Dr. LeGrand Atwood on "Before the War." The guests of the evening were also called on for speeches and responded. Dr. Robert M. Funkhouser officiated as toastmaster.

NEW YORK.

Hospital Cornerstone Laid.—The cornerstone of the new $140,000 Norwegian Hospital, Brooklyn, was laid with impressive ceremonies April 19.

Personal.—Dr. Charles G. Stockton, Buffalo, has returned from California.——Dr. Willard Parker was knocked down by an automobile, April 23, sustaining a fracture of the left leg and some contusions.

Mikulics in Buffalo.—Professor von Mikulicz of Breslau was in Buffalo, April 25, the guest of Dr. Harvey R. Gaylord. He gave a clinic to a large number of professional men, and in the evening a complimentary dinner was tendered him by the profession.

Advice for Consumptives.—President Lederle of the New York City Board of Health has sent out all over the city, especially among the crowded tenement house districts, a printed circular, giving advice on the treatment of consumption, in English, German, French and Hebrew, and calling attention to the fact that the spread of the disease is largely due to spitting.

Milk Adulteration and Proposed Legislation.—The Commissioner of Health states that there has been smuggled into a bill now before the legislature, and known as Senate Bill No. 1104, an apparently innocent clause which, if allowed to become law, will practically nullify the present law under which dealers are prosecuted for the adulteration of milk. The objectionable clause is in connection with the recovery of penalties for violation of the Sanitary Code, and says: "Which shall not be punishable as misdemeanors unless the wilful intent to violate such section shall be first proven." Last year there were collected in fines from milk dealers $19,118, as against $6,292 in 1901. Of 3,970 samples of milk taken for analysis last year 2,095, or 52 per cent., were found to be adulterated.

PENNSYLVANIA.

Telephone Advice.—The Allegheny County Medical Society has adopted a scale of charges of from $2 to $5 for advice given over the telephone.

Ray Bill Defeated.—The Ray bill, the object of which was to raise the standard of preliminary education requisite to entrance to medical colleges, has been defeated in the senate. Its defeat is ascribed to the influence of low-standard medical colleges.

Rabies Is Reported.—Twelve children, playing on the street, were bitten by a mad dog, which ran into a crowd. The victims were all promptly taken to the Pasteur Institute at Allegheny. Two children were also recently taken to the institute from Waynesburg for a similar reason.

Cocain Bill Passed.—This bill was passed by the legislature and has been signed by the governor, fixing a penalty of $100 or six months' imprisonment for the sale of cocain, or any patent or proprietary remedy containing cocain, without a physician's prescription, or to a habitual user of cocain.

Philadelphia Must Pay.—A claim of $67,000 against Philadelphia by the Norristown State Hospital for the Insane for the care of patients sent from the former, was recently allowed by the Supreme Court. The defense was that the city had in previous years overpaid the hospital, but the city's offsets were adjudged to have been barred by the statute of limitations.

Suppression of Smallpox.—For the information of boards of health and of school boards organized as boards of health for the suppression of smallpox, the secretary of the state board has had printed in pamphlet form regulations controlling the disbursement of the $50,000 placed at its disposal to aid in this work. The fund shall not be used for any other purpose than for assisting local communities during the prevalence of smallpox and for meeting just and reasonable expenses incurred in the suppression of that disease. School boards acting as boards of health, applying for aid, must furnish sworn evidence that they have organized formally and have adopted sanitary measures and appointed a paid sanitary agent. In no case will the state board assume the entire expense, and no unvaccinated person shall be appointed to any official position charged with carrying out preventive measures.

Bills Vetoed.—The following bills passed by the legislature were vetoed by the governor: A bill compelling manufacturers of baking powder containing alum to display the words on each package, "this baking powder contains alum." As a reason for veto, the governor states that it would be proper to require that all baking powders should have a label describing the ingredients and their qualities, but that it would be unjust to require one ingredient to be displayed without any reference to quantity. A bill making it unlawful for persons to spit in public conveyances and public places. As a reason for non-approval of the latter, the governor states that, while spitting is not nice, pleasant or polite, it seems that it would be better to leave the cure of a bad habit to gradual development of a better taste and higher culture rather than to attempt a regulation by law which imposes imprisonment instead of a well-digested health regulation. A bill making it a misdemeanor for persons with a knowledge of a case of contagious disease not to report the fact.

TENNESSEE.

Disinfect After Floods.—The Memphis Board of Health has cleaned and disinfected 163 houses in that part of North Memphis along Bayou Gayoso, which was submerged during the recent floods.

Graduates Class of Forty.—The medical department of Grant University, Chattanooga, held its annual commencement, April 14, graduating a class of 40. Dr. George A. Baxter delivered the faculty address and the degrees were conferred by Rev. G. T. Newcomb.

City Hospital Staff Elected.—On April 20 the following members were elected to the staff of the Memphis City Hospital: Drs. Leon L. Meyer, Alonzo B. Oliver, E. Michel Holder, Maxence B. Herman, William T. Black, James L. Andrews, Oswald S. McCown, William W. Taylor, Elizabeth C. Kane, Pope M. Farrington, Kennedy Jones, George R. Livermore, and B. Frank Turner.

State Board of Medical Examiners.—At the recent examination held in Nashville, 31 out of the 154 applicants for license to practice failed to pass.——The board appointed Dr. Robert Pillow, Columbia, delegate to the Interstate Medical Examiners' Association at New Orleans, May 4, with Dr. William H. Halbert, Nashville, as alternate.——The secretary, Dr. Thomas J. Happel, Trenton, was authorized to make a new directory of the physicians of the state.

UTAH.

Personal.—The Board of Commissioners of the State Mental Hospital has appointed Dr. Daniel H. Calder, Brattleboro, Vt., assistant physician.

Without License.—James Davidson, Salt Lake, has been charged with practicing medicine without a license and a warrant has been issued for his arrest.

State Board Meets.—The State Board of Medical Examiners reorganized at its April meeting and elected Dr. Elias S. Wright, Salt Lake, president; Dr. Robert W. Fisher, Salt Lake, secretary, and Dr. Briant Stringham, Bountiful, treasurer. The board passed 12 out of 13 applicants to practice medicine.

Salt Lake's March Health.—The total mortality for March was 67, representing an annual death rate of 10.72 per 1,000. Pneumonia caused 11 deaths; tuberculosis and cancer each 4, and diphtheria 10. During the month 161 births were reported. Of smallpox 92 new cases were reported; of diphtheria, 37; of scarlet fever, 15; of chicken-pox, 18; of measles, 8, and of typhoid fever, 4.

VERMONT.

To Combat Contagious Disease.—The city council of St. Albans has appointed Dr. Antoine H. Desloges to care for the contagious diseases of the city at an annual salary of $800.

Osteopaths Sued.—John S. Wilkins, Burlington, has sued W. W. Brock and Mrs. L. K. Rosselle of the same city for $10,000 damages, alleging that his wife, who was under treatment by the defendants, died as a result of severe pounding, bruising, etc., administered by them.

Smallpox Scare.—Burlington has a smallpox scare due to the arrival there of a family of nine from Manchester, N. H., whence they eloped. Five of the children and the mother were recovering from smallpox. Starting at night they traveled in a common coach and were found in a crowded tenement in Burlington. Two of the children were at work before the family was traced by the health officers. No one of them can speak English.

WASHINGTON.

Smallpox Under Control.—The county health officer of Walla Walla County reports that smallpox at Wallula, Dixie and College Place is now well under control.

Personal.—Dr. William L. Ludlow, Seattle, recently appointed health officer to succeed Dr. Frank M. Carroll, resigned, has been appointed a member of the local board of medical examiners. ——Dr. A. E. Stuhl, Colfax, has been appointed a member of the State Board of Medical Examiners, vice Dr. William G. Tucker, Port Townsend.

Spokane's Mortality Heavy.—The record for deaths in Spokane was broken in March, in which 84 deaths were reported. Pneumonia caused 10 deaths; tuberculosis, 8; kidney disease, 10; heart disease, 7; and suicide, 5. The prevalence of influenza is considered the cause of the heavy mortality. During the year 520 deaths and 829 births were reported. There were 1,189 cases of contagious disease, smallpox leading with 477.

GENERAL.

Professors Ewald and Tillmanns, of Berlin and Leipsic, respectively, are in this country to attend the session of the American Medical Association at New Orleans next week.

To Watch for Mosquitoes.—The U. S. P. H. and M. H. Service surgeons at the fruit ports of Central and South America have been directed to watch for the *Stegomyia fasciata* and to take precautions to prevent yellow fever and to watch for the occurrence of the disease.

Reception.—The Medical Club of Philadelphia will give a reception at the Hotel Bellevue, May 15, to Dr. George H. Simmons, Chicago, Secretary of the American Medical Association; Prof. von Mikulicz-Radecki, Breslau; Prof. C. A. Ewald, Berlin; Prof. Hans Kehr, Halberstadt, and Prof. Hermann Tillmanns, Leipsic, Germany.

Open Door in Turkey.—American physicians and dentists will now be on the same standing in Turkey as are those of France. They have heretofore been refused examination and could not practice. They will now be allowed to practice if they present good diplomas and pass the examination. This is the result of pressure brought to bear on the sultan by President Roosevelt and U. S. Minister Leishman.

Mikulicz Holds Clinics.—Prof. Johann Mikulicz of Breslau, whose visit to America we mentioned last week, is conducting clinics in various cities, including New York, Cleveland, Philadelphia and Chicago. He expects to visit Denver and other western cities. Dr. Mikulicz speaks very highly of American hospitals and says they far surpass those of Europe. He criticises the administration, however, in that there is not the autocratic power in the hands of one man, which he thinks an advantage in Germany. Here, he says, there is a division of authority and more frequent changes in the personnel of the staff that he thinks do not work out as well. Dr. Mikulicz gave a clinic, April 20, in Bellevue Hospital, for the faculty and students of Cornell University Medical College. He had as cases a gastrostomy, an inguinal hernia and a fibromyoma of the uterus. The gastrostomy was performed according to Witzel's method, which the professor appeared to consider the best. On the hernia he did an ordinary Bassini operation and the other case was treated by myomectomy. The interesting peculiarity of his work was his great dexterity, as the gastrostomy and the hernia were done in an extremely short time. One of the surgeons present remarked that he had never seen a Bassini operation completed more quickly, although the case, to be sure, was of the acquired variety and presented no unusual difficulties. Cotton gloves were also noticeable as the professor's preference. These were changed as fast as they became blood stained, but to the onlooker it seemed that considerable time was wasted in drawing on a clean pair each time. He remarked to the house staff that for appendicitis operations he preferred the old-fashioned transmuscular and not intermuscular incision. In closing the abdominal wound he employed numerous layers of chromicized catgut sutures. This material was also used very freely in suturing the uterus after the myomectomy.

CANADA.

Mandamus Refused.—In the case against the British Columbia physician who was alleged to have attended a woman in confinement while he was intoxicated, the judge has refused to compel the College of Physicians and Surgeons to hear and determine the charges.

McGill University in Need of Funds.—The salaries of McGill professors are the subject of much discussion. Four professors have recently received offers to go elsewhere at largely increased salaries. McGill needs, says one of the professors, a large measure of support from the citizens of Montreal.

A University for British Columbia is proposed by the graduates of the University of Toronto in that province. A large number of those in the terminal city, Vancouver, have met and decided to send a circular to all the graduates throughout the province. The proposal is to have a university with an examining body with power to grant degrees, and without a teaching staff.

Sir James Grant, Ottawa, Honored.—In recognition of fifty years spent in the practice of medicine, during forty-nine of which he was located in Ottawa, Sir James Grant, M.D., was tendered a banquet, April 21, by the medical fraternity of the capital and of the Ottawa valley. Sir James was greatly touched by this expression of friendship, and favored the company with some reminiscences of his medical career.

Personal.—Dr. J. M. Elder, Montreal, has gone to England until July.——Dr. James F. Boyle of Toronto has just completed a post-graduate course in Scotland, where he has succeeded in taking the degrees of L.R.C.P. and L.R.C.S., Edinburgh, and L.F.P.S., Glasgow.——Dr. Casey A. Wood, Chicago, was given the degree of D.C.L., *honoris causa*, at the annual conferring of degrees of Bishop's University, Montreal, April 24.

Dr. J. H. Richardson, Toronto, Honored.—The first medical graduate of the University of Toronto, a teacher of anatomy for half a century, an octogenarian, and one of Toronto's much-respected medical men, was honored by a dinner, April 15, by his old students, at the same time a portrait was presented to the university. A large number of medical men from Toronto, Ontario, and different parts of the United States gathered for the occasion to do honor to their old teacher. Dr. Richardson first began the study of medicine in 1841.

No Dominion Registration.—The Quebec legislature has rejected the proposal to ratify the scheme of Dr. Roddick, M. P., for dominion registration, now known as the Canada Medical Act, 1902. It was defeated by a large majority for the assigned reason of its alleged interference with provincial rights, and the French-Canadian guards very jealously his provincial rights. It is understood that the matter will be brought up again next session, and also before the College of Physicians and Surgeons, which, it will be remembered, voted last fall against the introduction of any legislation into the Quebec house of representatives to make the act operable.

Tuberculosis Conference.—The third annual meeting of the Canadian Association for the Prevention of Tuberculosis was held at Ottawa, April 16. In addressing the conference, Governor-General Minto stated that he believed there were annually not less than 30,000 cases of tuberculosis in Canada and the number of deaths was about 9,000. Dr. H. Beaumont Small read the annual report. In Canada out of 36 hospitals only 13 had special accommodation for consumption patients. Dr. A. J. Richer of Montreal read a paper, in which he estimated the annual loss to Canada from tuberculosis at $72,000,000, this being based on the deaths and invalidation from the disease. He further pointed out that, while the federal

government spent nearly $20,000 annually in preventing tuberculosis among cattle, it had only contributed $1,000 towards the same end among human beings.

FOREIGN.

Physician Enters Parliament.—Dr. Charles Frederick Hutchinson has been elected a member of Parliament from Sussex, England. He had retired from active practice.

Women Physicians Graduate at Bonn.—The daughters of two deceased local physicians have recently successfully completed their medical course at Bonn and graduated with distinction, the first women to graduate as physicians there.

Prizes for Essays on Sick Nursing.—Thirty prizes are offered for the best works on the subject: "How to Improve the Patient's Mood and Win His Confidence." The competing articles must be sent in before October 1 to the publishers of the "Deutsche Krankenpflege-Zeitung," Verlag Staude, Berlin W, 35.

Large Fine by the German Court of Honor.—A regularly qualified physician has been fined $375 by the Dresden medical court of honor, the highest fine it is empowered to impose. He was reprimanded officially by the court last September for cooperating with a notorious charlatan, Bilz, and has since resumed his connection with him.

Australian Physician Fined.—Dr. Alfred M. Keighly was fined $250 at Newtown, Australia, March 6, for the alleged representation that he was a legally qualified practitioner. He has given notice of appeal. He asserts that he is a graduate of the Cincinnati College of Medicine and has further studied in Europe. It was said he had been refused registration by the Australian medical board.

Campaign Against Charlatans in Germany.—The German society that has been recently formed for the purpose of educating the public in regard to the evils of quack practices has issued an appeal to the profession at large for funds with which to conduct its work on an extensive scale. All interested are requested to join the society. Subscriptions and other gifts may be sent to the treasurer, Dr. Albert Wilde, Charlottenburg, Rosinenstrasse 3, Germany.

Dangers of Using Circulars for Wrapping Medicines.—A physician at Dresden prescribed a snuff for a patient with asthma, which contained belladonna, hyoscyamus and datura. The druggist dispensed it in two small boxes, each wrapped in a circular advertising somatose. The patient noticed the directions for taking the somatose, a teaspoonful in milk, three times a day. Supposing that they applied to the contents of the boxes, he took a teaspoonful of the snuff in this way, with severe but not fatal intoxication.

Foundation of Monthly for Discussion of Medical Sociology.—A periodical has been founded by M. Fürst and K. Jaffe of Hamburg which announces that it will treat the "borderland" questions of practical medicine and social practice, and all matters pertaining to the material and economic welfare of the profession, organization, etc., without taking part on either side in any movement, merely presenting facts in an objective, scientific way. Subscription $2.50. Publisher, G. Fischer of Jena. The name of the new journal is the "Monatsschrift für soziale Medizin."

Suicide Increases.—The lay press quotes statistics to show that suicide is increasing. In all countries suicide has been more common with men than with women. The proportion of women is greatest in America and Spain. In France during the last twenty-five years the proportion has increased from 157 to 224 per million of the population. In Germany the proportion has been about the same and in Belgium somewhat less. In Russia there was no increase. The increase in other countries was in the following order: Austria, Hungary, Australia, Ireland, Scotland and England.

History of Compulsory Notification of Tuberculosis.—The first edict requiring compulsory notification of phthisis was issued by a king of Spain in 1751. The decree describes the motives for it, and enjoins destruction of the furniture and wearing apparel used by consumptives and replastering the room after a death. Physicians who fail to notify the alcalde of a consumptive patient or the death of a consumptive are fined 200 ducats at the first offense and suspended for one year, and for a second offense 400 ducats and exiled for four years. Nurses, servants and others waiting on the consumptive are required to see that the authorities are notified of the case under penalty of thirty days in prison for the first offense and four years at the galleys for the second. The edict also contains a paragraph directing that dealers in second-hand clothing must keep a record of the persons from whom the clothes are bought and to whom sold.

Organization for Prevention of Spread of Venereal Disease.—Although founded only last October, the German society organized for this purpose already has 1,600 members and has branches in nearly all the large cities of Germany. A similar society has recently been founded at Vienna. The German society held its first congress in March at Frankfurt a. M. The proceedings are to be published in detail in the newly founded "Zeitschrift für die Bekämpfung der Geschlechtskrankheiten," to be issued by the society in addition to its periodical, the "Mitteilungen." The "Zeitschrift" will be in charge of Blaschko, Lesser and A. Neisser, and be published by J. A. Barth of Leipsic; subscription $3. It will contain the more strictly scientific articles on the subject. Some of our exchanges think that the discussions at the March congress will be the starting point for extensive reforms in the prevention of venereal disease. Erb of Heidelberg created something of a sensation by protesting against the assumption that sexual abstinence is always "perfectly harmless," as he has observed isolated cases of neurasthenia and hysteria traceable to this cause in predisposed subjects.

Organization of the Profession in Germany.—Compulsory insurance of wageworkers against sickness has for some years been enforced in Germany. The sick fund societies, or "Krankenkassen," that assume the insurance make contracts with physicians for medical attendance of their members at the lowest possible rates, sometimes absurdly inadequate. A new law is before the Reichstag now which increases the length of the maximum treatment from thirteen to twenty-six weeks and requires venereal diseases also to be insured against. Hitherto the societies have ignored the venereal diseases. If this law goes into effect all the present contracts with the medical attendants of the societies will have to be modified to conform to the new conditions or otherwise the work of the physicians will be vastly increased without any more pay. The profession throughout the country has been organized, and there is every prospect that the day the law goes into effect, July 1, the medical attendants of all the societies will refuse to continue their services until new satisfactory pecuniary arrangements have been made, and other physicians will not take their vacant places. In short, the physicians have organized a general strike all along the line on the principle: "If you want peace, prepare for war." The societies have been counting on the usual inertia and lack of organization among physicians to accomplish their aims of the minimum of expense for the maximum of medical services, but the decided stand being taken by the united profession will undoubtedly have its effect and the contemplated strike not prove necessary. The strike at Müllhausen has been arbitrated and a temporary peace restored, but at Gera the conditions remain the same and the managers of the societies are compelled to pay for medical attendance for their members at the ordinary rates for a physician's services or let them go without. As a minor matter, the profession in Germany is working to introduce "the American plan" of free choice of the physician by the patient, and many of the new societies are organized on this basis.

LONDON LETTER.

Mr. Jonathan Hutchinson's Investigation of Leprosy in India. The return of Mr. Hutchinson from India has been followed by a lengthy editorial and evidently inspired article in the "Times" on his tour of investigation. If Mr. Hutchinson can not be said to have established the fish hypothesis which he advocates with all his characteristic pertinacity, he has once more shown that combination of keenness of observation, originality of suggestion and dialectic skill which give him a unique position among the clinicians of this or perhaps any age. His searching cross-examination in the cases of lepers said never to have eaten fish with his recent suggestion that leprosy can be communicated from person to person by "commensal contagion" (eating food from the sore hands of lepers) has demolished the objection of those who said that Indian experience was opposed to him. Further, he has brought forward a number of new facts which at least ought to cause those who do not seriously regard the fish hypothesis to pause. Mr. Hutchinson visited asylums at Colombo, Madras, Calcutta, Purulia Asonsal, Agra, Tarn Taran, Jullundur and Bombay. In several instances the asylum visited was chosen in consequence of statements that the inmates were not fish eaters. But nowhere were the facts strongly opposed to the fish hypothesis. In Ceylon all had been fish eaters. At Madras and Calcutta in

each asylum a single high-caste Brahmin denied having eaten fish. At Agra there was one doubtful exception. At Agra, Tarn Taran and Jullundur there were several. The untrustworthiness of the documentary evidence, if not subjected to criticism on the spot, was remarkably illustrated at one asylum in the Punjab. A tabulated schedule was prepared for Mr. Hutchinson by the native medical superintendent, according to which nearly 40 men alleged that they had never eaten fish. On questioning them one by one Mr. Hutchinson found that only one persisted in his denial, and he said he had not eaten fish because he "did not like it." The greater part of those who denied having eaten fish were patients in whom the disease had begun in early life; and in these food communication is especially likely to occur. Children would easily take food contaminated by the hands of leprous relatives. Passing from the removal of objections to positive evidence Mr. Hutchinson brings forward the following facts: The proportion of leprosy in the whole of India is 5 per 10,000. On the little island of Nunicoy, which exports fish, and where the inhabitants are said to eat four fish meals a day, the proportion is nearly 150 per 10,000. The records of the Matunga asylum at Bombay are most suggestive. The Hindus, who constitute the bulk of the inmates, come mostly from the great fishing district on the coast south of Bombay. During the eight years investigated no Jain and only one Parsee was admitted. The Jains are strict vegetarians and the same statement concerning their absence might probably be made of every asylum in India. The report of the Matunga asylum reveals a fact still more remarkable. One column is devoted to "Salsette Christians." The totals are Mussulmans, 324; Salsette Christians, 369. Yet the Mussulman population of Bombay Presidency is very large and the number of Salsette Christians very small. The latter term is applied to the converted natives of the little island of Salsette, which is north of Bombay and now connected with it by a road. It has a population of 50,000, largely engaged in fishing and fish-curing. The Salsette Christians are all Roman Catholics and are descendants of converts made by the Jesuits in the time of the Portuguese occupation and observe the fish fast days of their church. During the eight years no other Christian community in the presidency supplied a single leper to the asylum. Mr. Hutchinson's general conclusion is that as regards leprosy in India there are no facts which controvert or render untenable the fish hypothesis and that there are some which afford to it a support which he considers unassailable.

A New Method of Immunization.

A most important advance in the art of immunization has been rendered possible by the recent discoveries in physics by Professor Dewar which have lead to the liquefaction of air and other gases. At the Royal Society Dr. Allan Macfadyen described an investigation he had made in conjunction with Professor Dewar which promises a prophylactic and therapeutic agent in the treatment of typhoid fever, which may replace the anti-typhoid "vaccines" and anti-typhoid sera in use. So far all attempts to separate the toxin from the cell protoplasm of the typhoid bacillus have failed. Hence such "anti"-sera as have been produced are bactericidal or anti-bacterial and not actively antitoxic. For some years Dr. Macfadyen has been experimenting with bacteria which form intracellular or so-called "insoluble" toxins. He attempted at first to obtain the cell juices by trituration of the bacteria with fine sand and subsequent expression by a hydraulic press. But in all these operations heat is evolved and induces chemical changes in the juice obtained. Professor Dewar's observations on the liquefaction of various gases showed that at very low temperatures all chemical interchange ceased, although life was not necessarily destroyed. Dr. Macfadyen, working in conjunction with Professor Dewar, found that many species of bacteria could be exposed to the temperature of liquid air for considerable periods of time—in some cases as long as six months—without loss of vitality. At this temperature bacterial cells are frozen into hard fragile masses which can be successfully triturated *per se* without the possibility of autolytic changes, and the cell plasma can be subsequently obtained from the disintegrated mass. The cell juice obtained in this manner from the *Bacillus typhi abdominalis* is extremely toxic, although no living typhoid bacilli are present. This typhoid cell juice was employed in the immunization of animals which yielded an "anti" serum both bactericidal and also antitoxic. They were completely protected against lethal doses of living typhoid bacilli or of toxic cell plasma. Further animals inoculated with lethal doses of living bacilli or of toxin and some time later injected with curative doses of the "anti" serum recovered. This new method of immunization has wide possibilities for it is applicable to many infectious diseases.

The Bacteriology of Conjunctivitis.

At the Æsculapian Society Mr. E. W. Bremerton read an important paper on this subject based on an examination of 100 cases. His cases showed that in the various infections the risk of sloughing of the cornea was greatest in the following order: 1, streptococcus; 2, gonococcus; 3, staphylococcus; 4, diphtheria bacillus; 5, Koch-Weeks' bacillus, and 6, staphylococcus albus. Fifty per cent. of his cases of ophthalmia neonatorum were gonorrheal; and cases thought gonorrheal, which quickly recovered, were found to be pneumococcal.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, FIFTY-FOURTH ANNUAL SESSION, NEW ORLEANS, MAY 5-8.

Illinois State Medical Society, Chicago, April 29-May 2.
Arkansas Medical Society, Jonesboro, April 30-May 2.
Association of American Medical Colleges, New Orleans, May 4.
American Proctologic Society, New Orleans, May 5.
Kansas Medical Society, Concordia, May 6-9.
American Urological Association, New Orleans, La., May 8-9.
American Academy of Medicine, Washington, D. C., May 11-12.
American Therapeutic Society, Washington, D. C., May 11-13.
Oklahoma Territorial Medical Association, Guthrie, May 12.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 12-14.
American Dermatological Association, Washington, D. C., May 12-14.
American Surgical Association, Washington, D. C., May 12-14.
American Orthopedic Association, Washington, D. C., May 12-14.
American Pediatric Society, Washington, D. C., May 12-14.
Association of American Physicians, Washington, D. C., May 12-14.
American Medico-Psychological Association, Washington, D. C., May 12-15.
American Ophthalmological Association, Washington, D. C., May 13-14.
Association of Military Surgeons of the United States, Boston, May 19-21.
New Hampshire Medical Society, Concord, May 21-22.
North Dakota State Medical Society, Bismarck, May 21-22.
South Dakota State Medical Society, Mitchell, May 27-28.
Connecticut Medical Society, Hartford, May 27-28.

American Academy of Medicine.—The twenty-eighth annual session will be held at Washington, D. C., May 11 and 12.

Caldwell County (Texas) Medical Society.—At the annual meeting in Lockhart, April 14, Dr. John B. Holt, Lockhart, was elected president, and Dr. Ross, secretary.

Dubuque (Iowa) Medical Society.—The notice of the coming semi-centenary meeting of this society, which appeared in THE JOURNAL of April 25, should have read "fiftieth" and not "fifteenth" anniversary.

Graves County (Ky.) Medical Society.—In addition to the officers noted as having been elected, Dr. Jefferson D. Pryor, Mayfield, was elected vice-president and Dr. Herbert H. Hunt, of the same city, treasurer.

Central District (I. T.) Medical Society.—At the annual meeting, held in South McAlester, April 14, Dr. Alfred Griffith, South McAlester, was elected president; Dr. W. H. Cleckler, Wilburton, vice-president, and Dr. LeRoy Long, Caddo, secretary and treasurer.

Hartford County (Conn.) Medical Association.—The one hundred and eleventh annual meeting was held in Hartford, April 15. Dr. Howard O. Allen, Broad Brook, was elected president; Dr. George R. Shepherd, Hartford, vice-president, and Dr. William G. Craig, Hartford, clerk.

Pee-Dee (S. C.) Medical Association.—At the fifty-sixth annual meeting held in Darlington, April 8, Dr. F. H. McLeod, Florence, was elected president; Dr. A. T. Baird, Darlington, vice-president; and Dr. James M. Earle, Darlington, secretary and treasurer. The next meeting will be held in Florence, in October.

Silver Bow County (Mont.) Medical Association.—At the annual meeting, February 25, the following officers were elected: Trustees, Drs. Thomas J. Murry, Thomas J. Sullivan, John W. Gunn, Erasmus D. Leavitt, and Thomas A. Grigg; president, Dr. Thomas J. Sullivan; vice-president, Dr. Louis Bernheim, and secretary, Dr. Grace W. Cahoon, all of Butte.

Central Railroad of Georgia Surgeons' Association.—The annual meeting was held in Columbus, April 14. Resolutions

were adopted on the death of Drs. Benjamin R. Dostor, Blakely, Ga., and Robert F. Harper, Ozark, Ala. Dr. Samuel C. Benedict, Athens, was elected president; Dr. Charles Hickes, Dublin, Ga., vice-president, and Dr. W. Darracott Travis, Covington, Ga., secretary and treasurer.

Fairfield County (Conn.) Medical Society.—About fifty members were present at the one hundred and eleventh annual meeting held in Bridgeport, April 14. Dr. William B. Cogswell, Stratford, was elected president; Dr. Frederick Schavoir, Stanford, vice-president; Dr. Herbert E. Smyth, Bridgeport, clerk; Dr. Edwards M. Smith, Bridgeport, secretary, and Dr. William J. Tracy, Norwalk, county reporter.

Florida Medical Association.—The thirteenth annual meeting was held in St. Augustine, April 8 and 9. The following officers were elected: Dr. DeWitt Webb, St. Augustine, president; Drs. John McDiarmid, De Land, and Joseph N. Fogarty, Key West, vice-presidents; Dr. J. D. Fernandez, Jacksonville, secretary-treasurer, and Dr. Edward N. Liell, Jacksonville, librarian. The 1904 meeting will be held in Live Oak.

Medical Association of Georgia.—The fifty-fourth annual meeting was held in Columbus, April 15. The following officers were elected: Dr. Henry McHatton, Macon, president; Drs. James H. McDuffie, Columbus, and Elmer C. Thrash, Oakland, vice-presidents; Dr. Alexander Mack, Hawkinsville, censor, and Dr. Floyd W. McRae, Atlanta, delegate to the American Medical Association. The next meeting is to be held in Macon.

New Mexico Medical Society.—This society met for its twenty-second annual session at Las Vegas, April 7. The following officers were elected: Dr. G. C. Bryan, Alamogordo, president; Drs. Edwin B. Shaw, East Las Vegas, T. B. Hart, Raton, and Samuel D. Swope, Deming, vice-presidents; Dr. J. Frank McConnell, Las Cruces, secretary and delegate to the American Medical Association, and Dr. George W. Harrison, Albuquerque, treasurer.

Adams County (Ill.) Medical Society.—The annual meeting was held in Quincy, April 13, when the following officers were elected: President, Dr. William W. Williams, Quincy; vice-presidents, Drs. Amos D. Bates, Camp Point, and Henry Hart, Quincy; secretary, Dr. John A. Koch, Quincy (re-elected); treasurer, Dr. Levin H. A. Nickerson, Quincy (re-elected); censors, Drs. Joseph Robbins, Charles D. Center and Robert J. Christie, Jr., all of Quincy; delegate for two years to the state society, Dr. Edmund B. Montgomery, Quincy, and alternate, Dr. William E. Gilliland, Coatsburg.

FOURTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

Held in Madrid, Spain, April 23-30, 1903.

The President, M. le Prof. Julian Calleja y Sanchez, presiding.

[By Cablegram from our Special Correspondent.]

MADRID, APRIL 24, 1903.

The Fourteenth International Congress of Medicine opened in Madrid, Spain, Thursday, April 23. The organization and provision for the reception of members was miserable, and hotel accommodations inadequate. Many passengers on the "Irene" arrived late, being detained in Seville.

The Opening Sessions.

On Thursday afternoon the inauguration in the Opera House was attended by King Alphonso XIII and the queen mother.

The attendance, as announced by the Secretary, M. le Dr. Angel Ferandez-Caro, was 7,000, about half of whom were foreigners. The United States was seventh in attendance, with 200 present.

President Calleja, in his opening address, emphasized the progress of the century, laying special stress on the cell doctrine, and the theory of epigenesis in relation thereto. He considered that perhaps the greatest advance was in bacteriology, which now dominates medicine.

Congratulatory addresses were made by Leyden, Schroetter, Brouardel and Pavy.

The second day was largely given to organization and election of officers. The general reports were for the most part postponed.

Social Entertainment.

The evening of the first day closed with a grand ball, 500 delegates being present, in the City Hall. Among the other social events was a full dress reception, on Friday evening, in the palace by the king and queen. On Wednesday evening a party was given in the Royal Gardens. Saturday there was an excursion to the Escurial. [This is an immense monastery outside Madrid, considered one of the wonders of the world.] On Sunday a special bull fight was given for the benefit of the visitors, and on Monday an excursion to Toledo.

THE SCIENTIFIC PROCEEDINGS.

The most important papers were in pathology, medicine, obstetrics and gynecology.

Treatment of the Autointoxications Due to Overaction of the Nervous System.

Prof. Alexandre de Poehl of St. Petersburg described a vicious circle in nervous autointoxications in which the chief agent is adrenal. Deficient tissue oxidation sets free a number of organic acids in the blood. Poehl has found adrenal in many tissues; it is dissolved out by the hyperacid blood-serum and, as a reducing agent, still further intensifies the acidification of the blood. Senator has recommended spermin for this condition for the reason that it best combats the hyperacidity.

A New Antipyretic.

Lumiere and Chaumier read a paper on cryogenine, which is a semicarbazide. This is a powerful antipyretic, the dose being from ½ to ¾ gram. It lowers the temperature from one to three degrees, acting immediately, while the maximum effect is obtained in three hours. The effects last from six to forty-eight hours. The results vary with the nature of the disease. There was not found any disturbance of urine, digestion or of the nervous system even of the child, nor is a toleration established.

Tuberculosis.

Dr. Regurier of Nice presented a paper on "The Clinical Types of Pulmonary Tuberculosis and Their Therapeutic Indications." For rational and scientific treatment one must have an accurate clinical subdivision of the various types. The only logical basis for such a subdivision is the degree of resistance which the organic economy opposes to the microbic infection. There are three grades of reaction of the organism: 1, unbending resistance; 2, less firm resistance, and 3, entirely inadequate resistance. On this basis the author suggests a very complete regrouping of the various clinical types hitherto generally recognized.

The Dynamogenic or Inhibitory Action of Light Massage.

Dr. Saquet of Nantes read a paper on the comparative dynamometric measurements of the power of the hands taken before and after massage had been administered. As a rule there is an increase in power; in other cases there is apparently a diminution in the register of the dynamometer, but even in such cases the equilibrium is generally restored within a quarter of an hour.

Physicotherapy; Its Indications and Its Advantages.

Prof. J. Riviera of Paris praised most highly the physicotherapeutic agents, viz., electricity, heat and light. They act principally by stimulating the emunctory organs, by altering metabolism and by influencing the distribution of the blood to the various parts of the body. They are particularly of value in the treatment of city diseases such as gout, arthritism, dyspepsia, nervosity, all types of dystrophy, "uterine patients," and all the many chronic cases which have hitherto resisted medical treatment.

Ferruginous Waters for Chlorosis.

Dr. E. Guilleaume of Spa said that the same circulatory conditions which give the subjective symptoms of chlorosis prevent the proper assimilation of iron as a medicine. The ferruginous baths (carbonic acid gas) rapidly improve the general condition by improving the circulation, and so, without directly affecting the hemoglobin, further a cure by rendering possible the assimilation of the iron given internally.

Argon and Helium in Mineral Waters.

Dr. A. Popskin said that argon and helium, the recently discovered elements, have been identified in various waters, Cauterets, Harrowgate, Voslan, etc., but as they do not appear to enter into the biochemical processes and can not be recovered from animal or vegetable bodies by analysis, they, therefore, probably exercise no therapeutic action in the waters.

Syphilis and Hydrotherapy.

Dr. H. Keller of Reinfelden said that physiotherapy is as important as medicine in the treatment of syphilis. This treatment comprises hygiene, hydro-mineral treatment and hydrotherapy. They should be combined for syphilitics who are of the lymphatic or arthritic constitution, or anemic or debilitated. In the severe cases, it is really specific. It is indicated in cases of idiosyncrasy against mercury. Sulphurous, chlorinated and iodid springs are of especial value.

Tuberculosis and Hydrotherapy.

Dr. M. Cayeux of France said that certain waters, by their stimulating action, serve to fortify the organism against the attacks of the bacteria, while, by their peculiar composition, they combat the catarrhs, congestion and other "para-tuberculous" manifestations of the disease. He detailed the special indications for various types of waters.

The Causes of Tumors.

In the section on pathology, Doyen of Paris read a paper on "The Micrococcus Neoformans and Tumors." He said that all neoplasms are due to parasitic infection, the process being analogous to the inflammatory growth of actinomycosis. The neoplasms of rapid growth are due to the *Micrococcus neoformans*, which has been found in the growth. Pure cultures have been made on bouillon, and when inoculated into animals inflammations or neoplasms have been produced in them. He further stated that the toxins produced a reaction in cancerous individuals analogous to the action of tuberculin.

Parasites and Tumors.

Rio of Madrid described a type of sarcoma due to coccidia as well as granulomata of chronic growth, with central necrosis. These involved the skin, muscles and organs.

The subject was further discussed by Dr. O. Israel of Berlin, who reviewed the modern theories of parasitism in tumors. He said that tumors represent simply the reaction of the tissues to an unnatural stimulus, which leaves the supposition of a uniform etiologic factor without sufficient basis. The sarcoma, carcinoma, etc., are caused in the same manner, but by a very different stimuli. If, however, ectogenous parasites are proved to be the actual causative factors, it must be by demonstrating that they conform to the requirements laid down by Koch. The first one, inoculation, appears to have been proven, but reproduction of the disease has not. The second requirement, detection of the germ, has not been met. Israel declared that the plant parasites which are found are commensals rather than the direct cause, and the animal parasites are artefacts. Koch's third requirement, pure cultures, has never been satisfied as regards the protozoa.

Finally, the production of neoplasms by the inoculation of cultures has never succeeded, apparent successes being in reality inflammatory neoplasms. The true explanation of tumors is to be sought in cytobiologic conditions—pathologic increase in the proliferative tendencies of the cell.

Blastomycetic Lesions.

Dr. A. Bushke reviewed our knowledge on blastomycetes. Especial attention was paid to the *Oidium mycosis* of the Americans. Infection is through the skin and mucosæ, probably through lesions, but the mode has never been ascertained. There are three types: 1, blastomycetic septicemia; 2, localized infection, and 3, the typical, slow-growing blastomycosis. Dr. Bushke described the various modifications of the latter type in detail and gave their pathology. Because of its great tendency to internal metastases, the disease is more fatal in man than in animals.

Artificial Imitation of Pathologic Cell Conditions.

Dr. Unna of Hamburg showed how the various types of cytoplastic and raryoplastic degeneration might be induced on the microscopic slide by means of the action of various solutions.

Specific Sera.

Paltauf of Vienna emphasized the value of agglutination in order to determine the specificity of germs. The sera of horses immunized by streptococci of scarlatina by Moser agglutinated the same cocci in high dilution, but did not have this effect on the cocci of erysipelas or phlegmon.

Implantation of Bone.

Cornil of Paris declared that his investigations showed the announcements of Bartels to be premature. Bartels had said that his researches showed that pieces of dead and living bone were equally efficacious. Dr. Cornil said that both implantations are absorbed and replaced by fresh tissue, but in the case of living pieces granulations are more active and abundant. His experiments had been on the craniums of dogs.

Malaria.

Drs. Barrera and Pittaluga of Spain made important contributions on paludism. They claimed that Grassi, not Ross, was the real discoverer of the transmission of the ameba. The three varieties, quartan, tertian and estivo-autumnal, are due to separate species, and the recrudescenes of malaria are "bridges" which unite successive seasonal epidemics. Following the parthenogenesis of the organisms they seek the internal organs, where they remain during the latent periods. This is exemplified by the crescents. The multiplication takes place by a nuclear division, generally in June; thus young mosquitoes are reinfected. The quotidian type may be due to the estivo-autumnal variety or to a rapid development of the tertian or an independent type.

Acute and chronic estivo-autumnal varieties are the most diverse. He described the hydrographic conditions which suit the plasmodium. Prophylaxis directed toward extinction of the mosquito is most expensive and inefficacious, but mechanical protection of man is efficacious. Paludism in man is the proper point of attack. Quinin is best given during the latency of the disease in winter.

Ascoli of Rome emphasized the importance of studying the recrudescences in Italy. An epidemic of malaria appears annually at a time in June when there are relatively extremely few infected mosquitoes. Many cases have a malarial history.

There are two types of recrudescence, with brief and long intervals, the former being due to imperfect extinction, the latter to parthenogenesis. The latter connects successive epidemics. He emphasized the fact that mosquitoes are always born healthy, but man is the permanent host.

Dr. F. Hauser of Madrid argued that the anopheles do not furnish the only intermediate host for the malarial parasite. Under favorable conditions the germ might live in humid earth in some unknown form, and the disease might flourish in regions free from mosquitoes. From the earth it may be conveyed by the air or by mosquitoes to the blood; for example, the inhalation from dried marshes or the drinking of water infected by the bodies of dead mosquitoes could infect. Mosquitoes dying in marshes set free the organism, which then infects man through the medium of the air.

Obligatory Report of Tuberculosis.

In the section on hygiene, epidemiology and technical sanitation Dr. H. Tabor of Prague recited six very strong arguments for the general prophylaxis of tuberculosis, based on reports of every case of tuberculosis, of death from the disease, or of change of lodging of diseased persons.

The Intellectual Life.

Dr. L. Bares of Saint-Gandens said that intellectual labor predisposed to digestive disturbances, to disturbances of nutrition, and to nervous break down. A severe alimentary hygiene was recommended, excluding rich indigestible foods as well as alcohol and tobacco. Exercise in the open air, open bowels, an active skin, and the drinking of milk are essential for the

brain-worker. Sleep is the criterion of the nervous condition and should be undisturbed.

Hysterectomy in Acute Infections.

In the section on gynecology and obstetrics, Dr. Pinard of Paris read a paper on the above subject. He said that except for definite cause, such as trauma or putrifying fibroma, there is no rational indication for removal of the uterus. The autopsy never reveals localized lesions in the uterus. The presence of bacteria in the blood does not affect the prognosis. The bacteriology of uterus is valueless clinically for it is impossible to localize the infection in the uterus or to determine the advisability of operation.

Cortajena of Madrid said that general infections diminish the importance of the uterus as the primary agent. Chronic infections never justify hysterectomy. The proper moment for operation is almost impossible to determine. He urged conservative surgery of the adnexa.

Treub of Amsterdam said that radical operations have a mortality of 6 per cent. and do not guarantee cure. Such cases have prolonged disagreeable consequences. Conservative operations have a mortality of two per cent. and generally suffice, but may demand secondary operations. They never induce constitutional disturbances. For salpingo-oöphoritis medical treatment generally suffices, but if not, repeated posterior colpotomies are preferable. In rebellious or sterile cases conservative abdominal operations were advised, but not excision, while for tuberculosis hysterectomy must be made.

The other sections have only organized or listened to unimportant papers.

(To be continued.)

BOSTON SOCIETY OF MEDICAL SCIENCES.

Meeting held at Harvard Medical College, April 28, 1903.

Prof. H. C. Ernst in the chair.

[*By telegraph from our Regular Correspondent.*]

Discovery of the Germ of Smallpox.

More than five hundred of the prominent members of the medical profession of Boston gathered in the largest amphitheater of the Harvard Medical School to hear Prof. W. T. Councilman make his announcement of the discovery of the germ of smallpox. Dr. Councilman stated that for two years the study has been carried on under his supervision by Drs. Brinckerhoff, McGrath, Tyzzer and Thompson in the laboratories of the Smallpox Hospital at Galloupes Island and in the Detention Hospital on Southampton street, with the cordial cooperation of the Boston Board of Health.

All the material obtained was brought to the Harvard Medical School and thoroughly studied there. First vaccinia was studied and then the contents of the vesicles and pustules, but no definite germ could be here detected because of the vast number of bacteria of varying kinds always present. Finally an anatomic study of the lesions of the disease revealed the organism with its definite cycles of development. In the deep epithelial cells of the skin there were found bodies one micron in diameter, which have also been noted by other observers. They stain easily, are homogeneous, increase in size, their structure gradually becomes granular, their shape irregular, and they are surrounded by little circles more or less resembling amebæ. Occasionally segmentation is evident, the organism splitting into a number of segments.

This is a distinct cycle. There is no change in the nuclei, a vacuole surrounds the organism and grows with it. Suddenly it disappears and peculiar changes are noted in the nuclei, a ring appears and grows, rings appear in its periphery and its structure becomes sponge-like. This finally fills the whole nucleus, which degenerates and sets free the body. It does not much further increase in size, but the structure becomes more complex, the ring-shaped bodies appear, one micron in diameter, and it breaks up into these "spores." We thus have, as in other protozoa, two cycles, the intracellular and the intranuclear, the latter more complex and corresponding to sexual development.

In vaccinia we have only the first cycle, and this is the case also when the rabbit is exposed to smallpox. The monkey being nearer to man, however, gives both cycles. The whole process is complete when the vesicles begin to form. These stages are not found in the vesicles, pustules or crusts, but the "spores" have been found in the blood vessels of the skin. These are probably not the only cause of the later eruption, but prepare the way for the streptococci. Professor Councilman showed a beautiful series of lantern slides made from microphotographs which fully and clearly substantiated each of his statements.

Professor Calkins, professor of zoology at Columbia University, was present and agreed with Professor Councilman in believing the organism a protozoan. He warmly congratulated Professor Councilman and his associates for their investigations and discoveries, and specially noted the advantages of the discoveries in aiding the early diagnosis of the disease. If the organism can be found in the epithelial cells or the blood instead of our having to wait fourteen days for the eruption to appear, valuable time would be saved and the possibilities as regards treatment are evident. The organism belongs to the class of microsporidia.

Miscellany.

Clippings from Lay Exchanges.

LUCKY HE IS NOT ALSO.

"Mr. ——— — ———— is going . . . to have another amputation performed on his limb, as it will not heal on account of the bone being deceased."—"La Junta (Colo.) Democrat," Nov. 29, 1902.

HOW DID HE RECOVER FROM A MORTAL WOUND?

"Dr. — — ————, who was mortally wounded . . . and whose life hung in the balance for weeks, has fully recovered and resumed the practice of his profession."—"Burlington (Iowa) Hawkeye."

WHERE DID HE WEAR IT?

"Ottumwa, Iowa, Oct. 23, 1902.—Because her husband threw a bucket of water on her while she was asleep, . . . Mrs. ——— ———— procured a shotgun and blew her husband's stomach off."—"Chicago News."

SOME ARE.

"The ———— County Medical Association met. . . . Written papers were read by . . . and by Dr. ——— on antepartum and postpartum hemorrhoids."—"Memphis (Tenn.) Commercial-Appeal," April 8, 1903.

TRACHEO-ESOPHAGEAL ANASTOMOSIS?

"Coughs up a Luzon worm. . . . His stomach had been the home of . . . worm . . . with a most peculiar swelling at the neck. . . . This was undoubtedly the part by which the worm got caught in his windpipe when he began to cough it up."—"Brooklyn Eagle," April 18, 1903.

Professional Secrecy in the French Courts.—The "Journ. de Méd. de Paris" of November 9 gives the particulars of a recent suit involving a physician, which has caused much discussion in France. Dr. A. has for twenty years been the official duly appointed by the municipal authorities of Marseilles to pass on and certify the applications for committing insane persons to asylums. In a recent case a man was sent to an asylum, but was released after his attack of insanity had subsided, and sued his wife for having had him unjustly declared insane. She cited as witnesses the attending physicians, among them Dr. A. The latter, believing that his certificate was a public matter, knowing that it had passed through a number of hands, did not hesitate to testify to the effect of its contents. The husband at once sued him for $4,000 damages for violation of professional secrecy. The local court acquitted Dr. A., as it was generally understood that his certificate was a quasi-public matter, but the case was appealed, and the higher court decided against him, claiming that he had certainly violated professional secrecy in the affair.

Eruption from Confetti.—Foveau de Courmelles recently reported to the Paris Acad. de Méd. a case of a cutaneous eruption produced by confetti. The probable mode of poisoning was by the penetration of the anilin dyes from the confetti alighting on cracks in the lips.

Experimental Hypnotism; Effect on Circulation.—Berillon contributes an article on this subject to the "Journ. de Med. de Paris," describing the effect of hypnotism on several hysteric subjects, including those otherwise sound and those with functional circulatory disturbances. The sphygmograms show a remarkable influence of the circulation under the suggestion by the hypnotizer. The pulse and also the heart action could be retarded, accelerated or rendered regular at will, and the arterial tension modified. He also mentions that one of his friends, in a series of sphygmographic researches on himself, was alarmed to discover, after a time, marked arrhythmia, which, however, subsided so soon as he abandoned his researches. The close concentration of the attention directed by suggestion on certain organs, certain functions or certain parts of the body, leads to an actual polarization of the nerve force at this point. In one case of traumatic neurosis, with palpitations, arrhythmia and incessant tremor, all these symptoms subsided in the hypnotic sleep, as also the pronounced tachycardia in another case.

Ankylostomiasis in Cuba and Mexico.—Physicians in these two countries are awaking to the realization of the fact that the numerous cases of progressive anemia observed there and hitherto assumed to be malarial cachexia are, in reality, in many instances true ankylostomiasis. Agramonte describes his experience at Havana in the "Revista Med. Cubana," 1, No. 4. He found the *Uncinaria americana* in 16 cases of progressive anemia, 12 of which had been previously diagnosed as malarial anemia or cachexia and 3 as splenic anemia. He reports the clinical course of a few cases and illustrates the differences between this form of the uncinaria and the better known *U. duodenalis*. Manuell has had a similar experience in Mexico, having found 5 cases of ankylostomiasis in a brief time so soon as he commenced to examine for it. He remarks that these cases in the past have probably been cited as examples of the failure of quinin in certain manifestations of malaria. Two of his patients had been employed in Yucatan, 2 in the tobacco fields of the national valley and 1 came from a mining district. The trichocephalus accompanied the parasite in every instance, and in one case ascarides were also present. He mentions in his communication to the "Revista Médica" of Mexico, xiv, 11, that no one before has ever mentioned finding the trichocephalus in Mexico.

Aqueous Preparations of Menthol.—Blondel found that if menthol were given to a dog at the same time or shortly after an emetic dose of ipecac, there was no vomiting. Chauffard also noted that ipecac given with menthol failed to produce an emetic effect. This power to inhibit vomiting renders menthol very valuable in vomiting of reflex origin. Crèsantignes gives several formulas in the "Journ. de Méd. de Paris" for preparing an aqueous solution of menthol. Ordinarily it does not dissolve in water. He uses the tincture of quillaja saponaria, 5 gm. to 3 or 5 cg. of menthol, adding, after they are mixed and the menthol is dissolved, 10 gm. of neutral glycerin in distilled water q. s. to make 125 c.c. This is taken by the tablespoonful. For local application in case of frontal headache, he applies a mixture of 15 to 30 cg. of menthol dissolved in 10 gm. of tincture of quillaja and distilled water to make 155 c.c. This is applied on a folded compress. After three to five minutes the compress is replaced by one dipped in pure water, after which the menthol compress is applied again, and so on. For a mouth wash and gargle he prefers the formula: menthol 10 to 20 cg. in 20 gm. tincture of quillaja and distilled water, or a saturated solution of boric acid q s. to make a quart. The "Medical Standard" says that the first formula given "illustrates the absurdity of some of the prescriptions recommended in the journals for medicinal use. This mixture is to be used as a gastric sedative. The addition of the quillaja defeats this very end, since it is a decided, often a violent irritant; it is an active poison—a cardiac depressant, and a bill forbidding its use as a foam-producing ingredient of soda fountain drinks has been introduced in at least one state. The art of the pharmacist has in this case over-shadowed the practical end of the physician, who, as a matter of fact, would find the simpler spirit of peppermint or peppermint water just as effective."

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

CAUSE OF DEATH WANTED.

WATERTOWN, S. D., April 16, 1903.

To the Editor:—The following case has proved somewhat of a conundrum to me especially as no postmortem examination was allowed.

Cecil G., about 5 years of age, with a previous good history except a recent recovery from a mild attack of la grippe, was placed under chloroform anesthesia for the purpose of removing enlarged tonsils. The anesthesia was not complete, first, because the operation was expected to be of such short duration that it was not deemed necessary to take the time; second, in consequence of some danger to blood getting into the bronchi if reflex was entirely abolished.

One tonsil was easily removed, but some difficulty was experienced in getting the other engaged in the tonsillotome, principally in consequence of the contraction of the throat, and finally it was seized by a vulsella and removed with serrated scissors.

The child was immediately inverted to facilitate the flow of blood from the mouth, the child meanwhile struggling and crying with returning consciousness, when it suddenly stiffened and breathing and heart action ceased at almost the same instant.

Artificial respiration for over an hour, with subcutaneous injections of normal saline solution, failed to obtain any result. What would be supposed to be the exciting cause of death?

H. H. CLARK.

Correspondence.

Priority in Technic.

BROOKLYN, April 20, 1903.

To the Editor:—In the April 4 number of THE JOURNAL one of your contributors, in an article entitled "A Few Practical Points in the Technic of Nephrorrhaphy and Herniotomy, and a New Modification of Alexander's Operation," publishes, as his own, three operative procedures so long identified with the names of other surgeons that I can not forbear calling your attention to the fact.

In the second paragraph of his article your contributor states that he has employed the methods described since 1890, claiming originality, by implication, for the latter and dating the claim from the time mentioned. It may be true that Dr. Canac-Marquis was the first to apply the "crossed" or figure-of-eight suture in nephrorrhapy, although, if my recollection serves me right, I used it in the winter of 1889 and 1890 in perineorrhaphy, nephrorrhaphy, herniotomy and for the closure of abdominal and other incisions in general. This part of the subject is unimportant, however, since this was the period of development of the possibilities of the "crossed" or removable layer suture in my work, and prior to any publication of my own on the subject, or, so far as I then knew, of the publications of others as well. Since, also, your contributor does not employ the figure-of-eight suture to anchor the kidney, but only to close the wound and since, further, he does describe its use in closing the wound of the herniotomy operation, I feel that failure to give credit for these applications of the method justifies the present contribution.

In the transactions of the American Surgical Association for 1891 there appeared my first communication relating to a removable layer suture, illustrated by woodcuts. This suture was again described, with a modification relating to the method of finally securing the ends of the suture. Still later the method was again described in illustration of its application to the closure of the wound of the abdominal wall following the operation for appendicitis in a "Treatise on Appendicitis," edition of 1894. In the 1900 edition of the latter work this suture, together with a still further modification of the

method of securing its ends, is again described and illustrated. Quoting from the first of these, I said:

> It occasionally happens . . . that the different layers of tissue passed through in the course of the operation must be sutured separately in order to insure a good result. Here catgut will not answer, for the reason that it is dissolved or, at all events, weakened, before it has answered its purpose, and the sutured layers separate widely in spite of every care. To meet the requirements of these cases I have devised a suture which, while it serves all the purposes of a deeply buried layer suture, at the same time can be removed. I have called this the "crossed suture." Silkworm gut or silk may be used for this purpose, but the former is preferable. Both ends of the thread are threaded with needles of the proper curve, and both are passed beneath the lowermost or the deepest layer to be sutured, at sufficient distance from the edge to obtain a good hold thereon. As the thread is drawn through either edge of the layer, the loop is drawn taut beneath. The thread is now crossed, the needle which passed the latter through the outer edge crossing over the inner edge, and that which passed the thread through the inner edge going to the outer. The needles are now passed through the next layer as before, from below upward, securing a firm hold as in the first layer.
>
> The threads are again drawn taut and crossed as before, each time of crossing securing a layer until the surface is reached, the last layer, of course, being formed by the skin itself.

While Dr. Canac-Marquis concludes his operation by the use of "a lead nickel-plated shield threaded and shotted," I have for some years attained the same result in a slightly different manner. Quoting from my book, "A Treatise on Appendicitis," 1900:

> The crossed sutures are tied in pairs on either side of the wound. In order to guard against cutting of the skin from the silkworm gut, the sutures are tied over "bolsters" of sterile gauze or, what I find exceedingly convenient for this purpose, sections of thick-walled tubing of soft rubber (aspirator tubing) are used, the silkworm gut being passed through the lumen of the tubing. . . . This method gives all the advantages of buried layer sutures, and yet places completely within control the length of time the sutures are to remain in place. . . . Removal is accomplished by cutting the suture beneath the bolster on one side, and making traction on the other end of the thread.

While my first article was in the hands of the printer, and after I had employed the method of thus placing a removable layer suture in practically all the situations in which it is applicable, Well's translation of the first edition of Pozzi's work on gynecology appeared. I then became aware, for the first time, through a very scant reference to the matter by Pozzi (Vol. II, pp. 980, 981), that a similar suture had been described by Heppner for the perineum.

Taking up, next, Dr. Canac-Marquis' "Technic of Herniotomy for Radical Cure of Hernia": Bryant, as far back as 1889, advocated the use of the hernial sac itself to form a pad of resistance to intra-abdominal pressure. In the "Transactions of the New York State Medical Association," 1889, under the heading "Treatment of Hernia," Dr. Bryant says:

> I can not close this portion of the subject without calling to your attention a somewhat newer method of operating that I have practised on three distinct occasions. It certainly has some features that commend it. . . . It is performed by weaving the sac, after its separation, and its neck has been tied with catgut, into the pillars of the ring.

He then illustrates slits through which the sac is woven back and forth, "and finally the whole mass is quilted with deep stitches of catgut."

Though the details of Bryant's old operation, since abandoned, differs somewhat from your correspondent's, still the fundamental principle involved remains the same, and, "honor where honor is due."

In regard to Dr. Canac-Marquis' "New Modification of Alexander's Operation for Shortening the Round Ligaments," I would recall to your attention the fact that in the "Annals of Surgery," 1896, occurs a paper by Robert Abbe, entitled "Fixation of Round Ligaments in Alexander's Operation." After referring to a previous method of his own, Abbe says:

> The idea occurred to me of utilizing the round ligament itself for the double purpose of sewing up the inguinal canal and securing the ligament immovably.
>
> This, I found, was easily accomplished when the ligament was drawn out four inches, as was always readily done. . . . The ligament was drawn on until the uterus was firmly held well forward. The needle and loop now drew the ligament through new punctures on either side of the canal, crossing it to become a continuous suture for the canal. Three such stitches completely closed the canal up to the spine of the pubis, and left more than an inch and a half of ligament over. This was turned back over the last portion of the wound and stitched to it by one fine catgut stitch. . . .
>
> The use of living tissue as a suture thus serves the double purpose of fixing the uterus immovably and binding the canal permanently.

This is identical with your correspondent's method, except in the minor details of closing the superficial structures.

Unless your contributor can substantiate his implied claim as the originator of these three points in technic by publications bearing date earlier than 1889 in the case of the hernia operation, 1891 in the case of the removable layer or figure-of-eight suture, and 1896 in the case of the modified Alexander's operation, the credit of the method of weaving the pillars of the ring together by means of the sac itself should be given to Bryant, that of a removable suture to Heppner and myself, and that of employing the round ligament to close the inguinal canal and at the same time secure the uterus in position in Alexander's operation to Abbe.

GEORGE RYERSON FOWLER.

Marriages.

CHARLES P. PINCKARD, M.D., to Miss Mary Losey Graff, both of Chicago, April 25.

J. JULIUS RICHARDSON, M.D., to Miss Dorothy Flynn, both of Washington, D. C., April 20.

HUGH G. NICHOLSON, M.D., to Miss Roberta Coleman, both of Charleston, W. Va., April 16.

TASSO OLIVER FELIX, M.D., Downs, Kan., to Miss Neva Lee Trusdle of Kirwin, Kan., April 16.

WILLIAM A. CAMPBELL, M.D., Chicago, to Miss Jeannette E. Halsted, at Muskegon, Mich., April 15.

Deaths.

Matthew Gardner, M.D. McGill University, Montreal, 1871, a member of the American Medical Association; chief surgeon of the Southern Pacific Railway system; a member of the California State and San Francisco County medical societies; eminent in his profession and universally beloved, died at the Southern Pacific Hospital, San Francisco, April 18, a few hours after an operation for appendicitis, aged 56. He leaves an estate of a value estimated at from $75,000 to $80,000.

Joseph S. Eastman, M.D. Missouri Medical College, St. Louis, 1878, one of the founders and first president of the Oakland College of Medicine and Surgery, and a member of the state and county medical societies, died at his home in Berkeley, Cal., April 19, after an illness of six months, aged 48.

Henry Clinton Bunce, M.D. Medical Institution of Yale College, New Haven, 1850, assistant surgeon of the First Connecticut Heavy Artillery in the Civil War, died at his home in Glastonbury, Conn., April 15, after a protracted illness, aged 78.

William Flood Smith, M.D. College of Physicians and Surgeons, Baltimore, 1889, and thereafter professor of anatomy in the same institution, died from pneumonia at the Protestant Infirmary, Baltimore, April 14, after a short illness, aged 38.

John M. Allen, M.D. University of Pennsylvania, Philadelphia, 1840, surgeon of the Fifty-fourth Pennsylvania Volunteers in the Civil War, died at his home in Chester, Pa., from paralysis, after a short illness, April 20, aged 84.

Charles L. Howard, M.D. Medical College of Indiana, Indianapolis, 1896, of St. Paul, Ind., was instantly killed in a collision between an automobile which he was driving and a street car at Indianapolis, April 18.

John F. Gaylord, M.D. Medical Institution of Yale College, New Haven, 1878, a member of the Samoset Medical Association, died at his home in Plymouth, Mass., April 14, after a lingering illness, aged 45.

Sherman Hartwell Chapman, M.D. College of Physicians and Surgeons, New York, 1869, a specialist in diseases of the throat and lungs, died at his home in New Haven, April 15, from heart disease, aged 59.

James M. Brown, M.D. Jefferson Medical College, Philadelphia, 1875, a member of the American Medical Association, died at his home in Philadelphia, April 11, after an illness of several months.

L. Hart Kitchel, M.D. University of Buffalo, 1870, died from concussion of the brain and spine, resulting from a fall two months before, at his home in Alden, N. Y., April 20, aged 57.

Andrew G. Selman, M.D. Transylvania University, Lexington, Ky., 1843, a surgeon in the Civil War, who retired from practice in 1893, died at his home in Indianapolis, April 17, aged 81.

Arthur Jones, M.D. Jefferson Medical College, Philadelphia, 1898, of Bellevue, Ohio, died at his mother's home from pneumonia, April 15, after an illness of one week, aged 37.

Cornelius H. Woodcox, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1890, of Coldwater, Mich., died from heart disease at Gilead, Mich., aged 59.

Uriah M. Gibbs, M.D. University of Nashville, 1897, died at his home in Hanceville, Ala., from the effects of strychnin taken in mistake for calomel, April 18, aged 33.

William M. Griffith, M.D. Hahnemann Medical College, Philadelphia, 1872, died at his home in Philadelphia, April 20, from pneumonia, after a short illness, aged 53.

Frank B. Williams, M.D. New York Homeopathic Medical College and Hospital, 1884, died at his home in Brooklyn, N. Y., from Bright's disease, April 19, aged 39.

William S. Robertson, M.D. Medical College of Virginia, Richmond, 1854, died at his home near Mount Hermon, Va., April 21, after a short illness, aged 72.

Samuel H. Kaighn, M.D. Medical College of Ohio, Cincinnati, 1866, died at his home in Leesburg, Va., April 13, from influenza, after a short illness, aged 60.

Morton M. Dowler, Jr., M.D. Rush Medical College, Chicago, 1865, died at his home in Topeka, Kan., April 13, from consumption, after a long illness, aged 69.

Frederick A. Sweet, M.D. New York University, 1889, chief surgeon of the El Paso and Northeastern Railway, died at his home in Bisbee, Ariz., April 17.

Denman R. Kinsell, M.D. Homeopathic Hospital College, Cleveland, 1857, died at his home in Columbus, Ohio, April 17, after a long illness, aged 75.

Leonard Kittinger, M.D. Hahnemann Medical College, Philadelphia, 1863, died from pneumonia at his home in Wilmington, Del., April 17, aged 68.

George M. MacMillon, M.D. Ohio Medical College, Cincinnati, died April 16, at Sewickley, Pa., from consumption, after an illness of nine months.

A. C. Porter, M.D. Philadelphia University of Medicine and Surgery, 1870, died suddenly at his home in Ashford, N. Y., March 26, aged 67.

Thomas Jefferson Elam, M.D. University of Nashville, 1858, died suddenly from apoplexy at his home near Rucker, Tenn., April 20, aged 71.

Daniel H. S. Tuthill, M.D. Rush Medical College, Chicago, 1885, died from heart disease at his home in Chicago, April 18, aged 43.

John W. De Vaughan, M.D. Vanderbilt University, Nashville, Tenn., 1883, died at his home in Milltown, Ala., April 19, from paralysis.

John C. Willy, M.D. University of Zurich, Switzerland, 1874, died suddenly from apoplexy at his home in New Orleans, April 18.

Henry A. Mix, M.D. Rush Medical College, Chicago, 1864, a surgeon during the Civil War, died at his home in Oregon, Ill., April 22.

Franklin A. Sherman, M.D. Castleton (Vt.) Medical College, 1850, died at his home in Ballston, N. Y., April 22, aged 74.

Charles H. Link, M.D. Baltimore Medical College, 1898, died recently at his home in Burlington Flats, N. Y.

Charles L. Youmans, M.D. Atlanta (Ga.) Medical College, 1895, died at his home in Baxley, Ga., April 8.

Medical Organization.

Sumner County (Tenn.) Medical Society.

The physicians of Sumner County met at Gallatin, April 6, and perfected the organization of a county society, with Dr. L. Miller Woodson, Gallatin, president; Andrew J. Swaney, Gallatin, vice-president, and delegate to the Tennessee State Medical Society, and H. Reese, secretary and treasurer.

Buchanan County (Mo.) Medical Society.

At a meeting of physicians at St. Joseph, April 14, a new county society was organized on the lines suggested by the American Medical Association, with an initial membership of about fifty. Dr. Thomas H. Doyle was elected president; Dr. Thompson E. Potter, vice-president; Dr. J. M. Dunsmore, secretary, and Dr. Joseph J. Bansbach, treasurer, all of St. Joseph. Drs. James K. Graham, Chester A. Tygart and James W. Heddens were named as censors.

Grayson County (Ky.) Medical Society.

The physicians of Grayson County met at Lietchfield, April 14, and organized a county society after a talk from Dr. Charles Z. Aud, Cecilian, president of the Hardin County Medical Society. Dr. John M. Berry was elected president, and Dr. Andrew J. Slayton, vice-president, and Dr. George W. Armes, secretary, all of Leitchfield, and Dr. Henry C. Duvall, Millwood, was elected delegate to the state society. The constitution and by-laws of the American Medical Association was adopted in full.

Four States Reorganize in One Day.

Telegraphic reports from San Antonio, Texas; Lincoln, Neb., and New Orleans, La., announce that on April 29 each of these states adopted the constitution and by-laws recommended by the American Medical Association, with practically no changes. On the same date the Illinois State Medical Society also adopted the same constitution. This makes eight state societies that have adopted practically the same constitution within two weeks.

ASSOCIATION NEWS

NOTES ON NEW ORLEANS.

Final Announcements Concerning the Session Next Week.

The Bureau of Information of the New Orleans session, which will be located on the ground floor of the Artillery Hall, entrance on St. Charles street, announces the following:

Members of the committee will meet all incoming trains May 4 and 5. Placards will be in evidence in each station indicating where these gentlemen will be found.

The bureau will have every facility for supplying all kinds of information; this means male and female clerks, index lists of all visiting physicians and their ladies, railroad schedules, excursion information, telegraph, telephone, stenographer and typewriter, messenger services, guide books, newspapers, cigars, etc. The committee has completed all plans for the meet-

ing and urge all members not located to inquire at the Bureau of Information for rooms.

Members of the profession are advised that badges will be furnished only to those who register as members of the American Medical Association. While the several Sections are open to the profession, the discussions are confined to members. Participation in the several entertainments is restricted as well to the members of the Association and to invited guests.

THE ENTERTAINMENT OF THE LADIES.

Members, with ladies, who have not already notified the committee are requested to leave word at the Bureau of Information as to the number and names of ladies in their party.

The Ladies' Committee announces a trolley ride for the visiting ladies, to start at 11 o'clock on Wednesday, May 6. All to report at 10:30 at the Palm Garden of the St. Charles Hotel.

On Thursday, May 7, at 9:30 at the Palm Garden, a ladies' committee will meet and escort visiting ladies who desire to see the old French quarter of New Orleans. Other features for the ladies have been announced previously.

TRIP TO LEPERS' HOME.

The Board of Control of the Leper Home has invited all members of the Association who may desire to visit this institution. The trip is arranged for Saturday, May 9, and it will take the entire day to make the trip. All desiring to go will leave word at the Bureau of Information. The expense will be nominal, but the exact cost will be furnished on application at the bureau.

OTHER ANNOUNCEMENTS.

The Howard Library, at Lee Circle, through Mr. William Beer, the librarian, invites members of the Association to see some of the special works on medical and hygienic subjects.

The Elks have extended the privileges of their club house to members of the Association who wear their badges.

The river excursion will be on the steamer *New South*, which will accommodate 2,200 people.

The Hotel Committee has received application for rooms for about 2,000 people thus far and 40 or 50 applications are being received daily.

Lunch will be served at reasonable rates in the Washington Artillery Hall by the Christian Women's Exchange.

BANQUETS.

Among the banquet announcements are the following: Section on Nervous and Mental Diseases, at Victor's Restaurant; Sections on Practice of Medicine, Pathology and Physiology, and Materia Medica, Pharmacy and Therapeutics, at West End Hotel; Section on Surgery and Anatomy, a smoker at Young Men's Gymnastic Club; Sections on Cutaneous Medicine and Surgery, and Hygiene and Sanitary Science, a smoker, place to be announced in Section meetings Tuesday afternoon; Section on Laryngology, at Antoine's Restaurant; Section on Ophthalmology, Tulane University Hall, Mr. Emile Lubeigt, chef; Section on Obstetrics and Diseases of Women, same place and menu as Ophthalmology. All these banquets and smokers will be held Tuesday evening.

Notice to Members of the House of Delegates.

The members of the House of Delegates are requested to meet in New Orleans Monday, May 4, at 2 p. m. This meeting will be informal, and no official business can be transacted.

Its purpose is to consider unofficially the business which must be transacted by the House of Delegates and to consider the result of the work of the several committees.

It is believed that this informal meeting on Monday will so fully acquaint the delegates of the work to be done that one meeting each morning will be sufficient to accomplish all the business of the Association. Thus the delegates will be free to attend the afternoon scientific work of the Sections.

FRANK BILLINGS, President.

Registration of Members of the House of Delegates.

The Committee on Credentials will be in session Monday morning at the St. Charles Hotel to receive credentials and register all delegates who will present themselves. It is hoped that as many as possible will register during the morning so that there may be no delay when the meeting is called to order at 2 o'clock.

OUR NEW HOME.

THE NEW BUILDING OF THE AMERICAN MEDICAL ASSOCIATION.

The American Medical Association now has a home of its own, and it is paid for. This achievement, the consummation of long-cherished plans, is one of which every member and subscriber may well be proud. The American Medical Association not only owns its own building, but it is thoroughly equipped for printing and publishing THE JOURNAL.

Believing that it will interest our readers to gain a general idea of the building and of the equipment by which THE JOURNAL is prepared each week, we give some illustrations showing the interior as well as exterior. The new building is near the corner of Dearborn Avenue and Indiana Street. It is on the north side, a few blocks from the business center of Chicago and not far from the lake. It is 40x80, of three stories with a high basement and is built of brick. The basement is used as a press room, the first floor as folding and mailing departments, the second floor as the editorial and business offices and the third floor as a composing room. The trustees' room and library is also on this floor. The building is strongly built so that it will allow additional stories. The land owned by the Association adjoining the building, on which are three residences, and which is 60x80

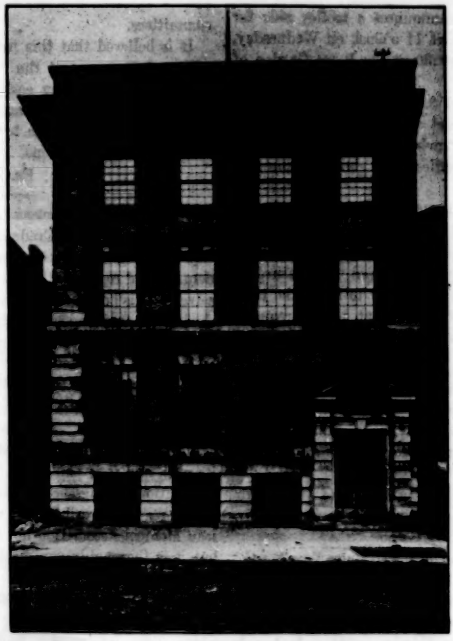
feet in size, will admit of addition as soon as the Association requires more room than is at present afforded.

It may not be out of place here to extend an invitation to members, subscribers, advertisers and other friends of the Association to inspect the building and equipment. Many have done so, taking a personal interest in the property. The members realize that they are the actual owners of the building and they have many words of congratulation for the progress that has been made.

One of the illustrations is a chart showing the growth of the circulation of THE JOURNAL. It is worthy of study. The following is a statement of the average weekly circulation from the first year to date:

1883	3,800
1884	4,020
1885	4,500
1886	4,809
1887	5,000
1888	5,100
1889	5,450
1890	5,450
1891	5,200
1892	5,200
1893	5,600
1894	6,200
1895	6,548
1896	7,742
1897	9,119
1898	11,270
1899	13,672
1900	17,446
1901	22,049
1902	25,321
1903 (first 4 months)	27,269

It will be remembered that from 1846 to 1882 the proceedings of the Association were published as an annual volume. A change was then made and a weekly journal established in order to give quicker and fuller reports to the members and to serve as a link to bind the members of the Association closer together by more frequent intercourse. The minutes of a meeting held in 1883, at which it was decided to commence publication of THE JOURNAL, makes interesting reading. A careful estimate was made to ascertain what support THE JOURNAL might receive. It was thought that a revenue from membership and subscriptions of $12,000 could be had; in 1902 the receipts from membership and subscriptions amounted to over $100,000. In 1883 the estimate was made that $5,000 might be received annually from advertising; in 1902 THE JOURNAL received about $70,000 from this source. In 1883 $8,000 was estimated to cover the cost of material, printing, wrapping and mailing THE JOURNAL; the white paper alone for 1902 cost $36,000.



THE NEW BUILDING OF THE AMERICAN MEDICAL ASSOCIATION.

THE PREVIOUS SESSIONS HELD AT NEW ORLEANS.

The session of the American Medical Association next week in New Orleans will make the third time the Association has met in the Crescent City. The first session was held there May 4-7, 1869, and the second April 28-May 1, 1885. It may not be uninteresting to look back at some things that took place at these sessions.

At the session held in 1869 the President was Dr. W. O. Baldwin of Alabama, and Dr. T. G. Richardson of New Orleans was the chairman of the Committee of Arrangements. The entertainments, according to the report of the meeting, consisted of a reception at the Mechanics' Institute on Tuesday evening, and an excursion down the Mississippi River, "to the plantation of Effingham Lawrence, Esq.," on Friday. One hundred and ninety-one registered at the meeting, beside twenty-seven "Members by invitation." Alabama was represented by 26; Arkansas, 2; Delaware, 1; District of Columbia, 7; Georgia, 3; Illinois, 13; Indiana, 3; Iowa, 1; Kentucky, 14; Louisiana, 21; Michigan, 5; Minnesota, 1; Mississippi, 20; Missouri, 3; New York, 14; Ohio, 13; Pennsylvania, 12; Rhode Island, 2; Tennessee, 13; Texas, 7; West Virginia, 3; Wisconsin, 2; Medical Dept. U. S. Army, 3; Medical Dept. U. S. Navy, 2.

MEDICAL EDUCATION.

As was not unusual at that time, considerable interest was shown in medical education, and the efforts at this session, as at many preceding, were for a higher standard. The President's address was mainly devoted to the subject, and it would make interesting reading at the present time. The following preamble and resolutions were introduced and referred to a committee, but the report does not state definitely whether or not the resolutions were adopted:

WHEREAS, The medical teachers of America have, after a trial of twenty-two years, failed to meet satisfactorily and efficiently the requirements of the great body of the profession in regard to medical education; and

WHEREAS, The condition of the profession is yearly becoming more deplorable, on account of the antagonistic and objectionable policy of medical schools, in making the amount of fees charged, rather than a successful teaching, the basis of competition; and

WHEREAS, To obtain professionally competent graduates, sound and efficient teachers are indispensably necessary; and

WHEREAS, Such teachers, to be found throughout the country, can not be induced to leave their homes without the assurance of competent remuneration; and

WHEREAS, Such remuneration can only be obtained by adequate fees charged, unless by a system of low fees the number of students be relied on to make up the inevitable pecuniary deficiency; and

WHEREAS, Reliance on numbers of students for this purpose deplorably crowds the already overcrowded professional field, diminishing thereby individual income, judgment, experience and skill, thereby compelling practitioners to resort to other avocations as a source of supplemental income; and

WHEREAS, This devotion to other pursuits often destroys opportunities for study and improvement, degrading thereby the status and standard of American physicians; and

WHEREAS, The schools of New England, New York, Pennsylvania, Maryland, Virginia, South Carolina, Alabama, Georgia, Texas, Tennessee and District of Columbia now charge comparatively remunerative fees; and

WHEREAS, The low system of fees is charged in only a few of the middle states, and can with advantage be made to conform to the rate of fees charged elsewhere; and

WHEREAS, It is as unethical for colleges to underbid each other pecuniarily as for practitioners to do so.

DR. ISADORE DYER, NEW ORLEANS, CHAIRMAN OF THE COMMITTEE ON ARRANGEMENTS.

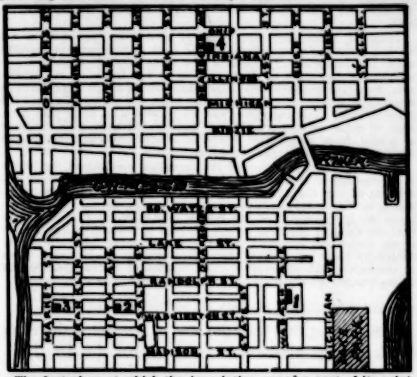
Resolved, That hereafter no medical school in this country, other than those fully endowed, shall be entitled to representation in this Association if the amount charged by such schools for a single course of regular lectures be less than $140.

Resolved, That all schools charging less than this sum are earnestly requested by this Association to advance their rate of fees to the amount mentioned.

Beside the above resolution, the President's Address and other matter referring to medical education was referred to a Committee on Medical Education. This committee made a report, part of which, we think, is worth copying:

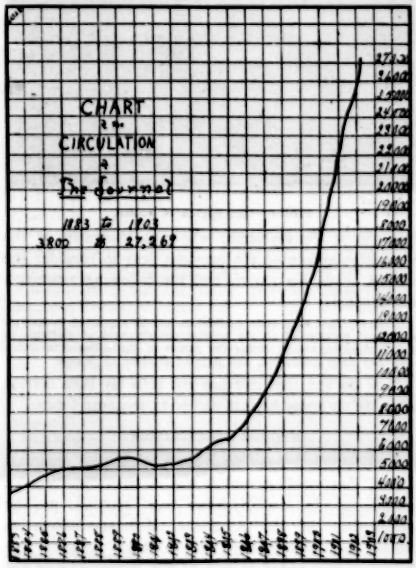
WHEREAS, The results of all the efforts made during the last twenty-five years to elevate the standard of medical education, through concert of action among the numerous medical colleges of this country, have proved, with equal clearness, that such concert of action in an efficient manner is unattainable; therefore,

Resolved, That whatever is done to establish and maintain a just and fair standard of medical education throughout our whole country must be done by the profession itself, through its own voluntary organizations, in the same manner that it now establishes and enforces its Code of Ethics. The profession is as competent to declare, through its representatives in the national, state and local societies, what shall be the standard of attainments for those to be recognized and admitted into its ranks, and to establish the boards or agencies by which compliance with such standard shall be ascertained, as it is to declare what shall be the ethical rules governing the conduct of those already admitted.



The first place at which the Association owned a part of its printing plant was at 68 Wabash Avenue (1). It was moved to 86 Fifth Avenue (2) in 1894, to 61 Market Street (3) in 1896, and to the present home of THE JOURNAL (4), 103 Dearborn Avenue, in 1903.

Resolved, That this Association earnestly requests each state medical society to appoint annually one or more boards of examiners, composed of five thoroughly qualified members, whose duty it shall be to meet at suitable times and places for the examination of all persons, whether graduates of colleges or not, who propose to enter on the practice of medicine in their respective states, except such as have been previously examined and licensed by a similar board in some other state.



Resolved, That each state medical society be requested to make such regulations concerning the pay of the boards of examiners, and the fee to be charged for a license to practice, that the former shall in no case depend on the amount received from the latter.

Resolved, That each state medical society be requested to require its examining board or boards to exact of every applicant for

examination adequate proof that he has a proper general education, is 21 years of age, and has pursued the study of medicine three full years, one year of which time shall have been in some regularly organized medical college, whose curriculum embraces adequate facilities for didactic, demonstrative and hospital clinical instruction.

Resolved, That each state medical society be requested to act on the foregoing propositions at the next regular annual meeting after the reception of copies of the same, and, if approved and adopted by the state medical societies of two-thirds of the states, this Association shall deny representation from all organizations who longer refuse to comply with the same, and shall recommend the state societies to do the same; and all persons who, after that date, seek to enter on the practice of medicine without first receiving a license from some state board of examiners, shall be treated ethically as irregular practitioners.

Resolved, That, in adopting the foregoing resolutions, by which it is proposed to treat the medical college diploma the same as the diploma of any literary college, this Association is actuated by no desire to injure the medical schools of our country. On the contrary, by the adoption of the fourth resolution, at the same time that the value of the mere college diploma is practically nullified, it is the desire and confident expectation that those institutions will be greatly benefited, because they will be forced to rival each other in the extent and efficiency of their courses of instruction, instead of the number of diplomas which they can annually distribute.

AN EFFICIENT NATIONAL MEDICAL DIRECTORY.

Evidently at that time the need of a national directory of the medical profession was recognized, for Dr. J. H.

PART OF THE EDITORIAL ROOMS.

Packard of Pennsylvania, who was chairman of the committee appointed the previous year to consider the subject, made his report, and the following resolution was adopted:

Resolved, That each state medical society be requested to prepare an annual register of all the regular practitioners of medicine in their respective states, giving the names of the colleges in which they may have graduated, and date of diploma or license.

It is too bad that this has not thus far been carried out. We sincerely hope it will be in the near future.

MEDICAL ORGANIZATION.

Considerable interest was shown in medical organization at that meeting, and it was at that time that an amendment to the By-Laws was adopted making membership in the American Medical Association depend on membership in a local society. The following was added to one of the paragraphs of the By-Laws:

Nor shall any person not a member and supporter of a local medical society, where such a one exists, be eligible to membership in the American Medical Association.

This clause has been in the Constitution and By-Laws ever since, although many think it is a new idea just promulgated in the reorganization work now going on.

THE SESSION OF 1885.

The session of 1885 was held under the presidency of Dr. Henry F. Campbell of Georgia. Dr. Samuel Logan of New Orleans was chairman of the Committee of Arrangements, and delivered the address of welcome.

Considerable interest was shown at this meeting in the meeting of the International Medical Congress, which was held in 1887.

As usual, the Association took some action in regard to elevating the standard of medicine in this country. The following resolutions in regard to the creation of state boards of examiners were adopted:

Resolved, That the Section on State Medicine earnestly advocates the establishment in every state and territory of state boards of medical examiners and licensers, whose certificate shall be the only license permitting practice of medicine in said states.

Resolved, That the Section requests the American Medical Association to direct its Permanent Secretary to transmit a copy of the annexed draft of a bill to the secretary of each and every state medical society, requesting that each state society discuss said bill, and report at the next meeting of this Association its views on the desirability of advocating such a bill.

THREE OF THE LINOTYPE MACHINES.

RUSH MONUMENT FUND.

Dr. A. L. Gihon, who, the preceding year, was appointed chairman of the Committee on the Rush Monument Fund, brought in the first report, which is a long one. It is in the form of an argument for the erection of a monument to Benjamin Rush, followed by a consideration of the character of the monument and the probable cost, the latter being estimated at $40,000. The question was asked in the report, "Can the 90,000 physicians in the United States raise $40,000 for such a purpose?" And it was answered: "If every member of the profession were to contribute only 50 cents the question would be solved, but as such unanimity is hardly to be expected, your committee has preferred to estimate that an equal number may decline to assent to their proposition, in which event, from a subscription rate of only $1 apiece, the sum of $45,000 will still accrue and be ample to erect a monument comparable in every respect to the splendid equestrian statues of General Thomas and General Scott or the seated figure

of Chief Justice Marshall." The committee closed its report by recommending the adoption of certain resolutions which it had prepared. These, in brief, were that the Association undertake to erect a statue to Dr. Benjamin Rush in the City of Washington; that the necessary funds for this purpose be obtained by subscriptions limited to $1 from each physician and student of medicine in the United States, and by the voluntary donations of such additional sums as may be tendered by persons interested in the work; that a standing committee, to be styled the Rush Monument Committee, be appointed by the President, and the last resolution was:

Resolved, That an effort be made to determine a site for the monument, so that the ceremonies of its dedication may be made coincident with the meeting of the International Medical Congress at Washington in 1887.

The year 1903 has come and the Rush monument is not yet erected. Each year since that time, until the year preceding his death, Dr. Gihon presented his report and his plea for this monument, as many of our readers know.

The total membership at this time was given as 3,050.

THE TRUSTEES' ROOM.

A CORNER OF THE LIBRARY.

As intimated in the report of the Board of Trustees, this large increase in two years came about through the establishment of THE JOURNAL.

The officers of the seven Sections of the Association were as follows:

Section on Practice of Medicine, Materia Medica and Physiology: Chairman, J. T. Whittaker, Cincinnati; Secretary, B. L. Coleman, Lexington, Ky.

Section on Obstetrics and Diseases of Women: Chairman, S. C. Gordon, Portland, Me.; Secretary, —— Paine, Texas.

Section on Surgery and Anatomy: Chairman, Nicholas Senn, Milwaukee, Wis.; Secretary, H. H. Mudd, St. Louis.

Section on State Medicine: Chairman, John H. Rauch, Springfield, Ill.; Secretary, F. E. Daniel, Austin, Texas.

Section on Ophthalmology, Otology and Laryngology: Chairman, Eugene Smith, Detroit; Secretary, J. F. Fulton, St. Paul, Minn.

Section on Diseases of Children: Chairman, W. D. Haggard, Nashville, Tenn.; Secretary, W. B. Lawrence, Batesville, Ark.

Section on Oral and Dental Surgery: Chairman, John S. Marshall, Chicago; Secretary, A. E. Baldwin, Chicago.

Dr. William Brodie, Detroit, was elected President for the ensuing year.

HOUSE OF DELEGATES.

The House of Delegates will be made up of the following delegates so far as we are advised. Those states not named have not appointed their delegates or have not sent in the names. Several states will be entitled to a larger representation than last year.

Delegates from the State Societies.

Arkansas—J. A. Dibrell, Little Rock.
California—H. Bert Ellis, Los Angeles.
Colorado—C. K. Fleming, Denver.
Connecticut—C. S. Rodman, Waterbury; C. F. Brayton, Stonington.
Delaware—George W. Marshall, Milford.
District of Columbia—George M. Kober.
Florida—R. D. Murray, Key West.
Georgia—Jas. B. Morgan, Augusta; Floyd W. McRae, Atlanta.
Indian Territory—B. F. Fortner, Vinita.
Indiana—G. W. Kemper, Muncie; Ewin Walker, Evansville; W. N. Wishard, Indianapolis; D. C. Peyton, Jeffersonville.
Iowa—J. R. Guthrie, Dubuque; Samuel Bailey, Mt. Ayr.
Kansas—J. E. Minney, Topeka.
Kentucky—J. N. McCormack, Bowling Green; Ap Morgan Vance, Louisville; I. A. Shirley, Winchester.
Louisiana—Rudolph Matas, New Orleans.
Massachusetts—W. N. Swift, New Bedford; A. G. Minshall, Northampton; B. H. Hartwell, Ayer; W. T. Councilman, Boston; J. C. Warren, Boston; H. E. Marion, Brighton.
Michigan—H. O. Walker, Detroit; V. C. Vaughan, Ann Arbor; T. A. Felch, Ann Arbor; J. B. Griswold, Grand Rapids.
Minnesota—A. W. Abbott, Minneapolis; Wm. Davis, St. Paul.
Mississippi—J. C. Hall, Anguilla.
Missouri—F. J. Lutz, St. Louis; Jabez N. Jackson, Kansas City; Wm. Dorsett, St. Louis.
Montana—T. J. Murray, Butte.
New Hampshire—Ira J. Prouty, Keene.
New Jersey—Chas. J. Kipp, Newark; Elias J. Marsh, Paterson; L. M. Halsey, Williamstown.
New York—E. Eliot Harris, New York; Charles A. Wall, Buffalo; Elias Lester, Seneca Falls; Jos. D. Bryant, New York.
North Carolina—E. C. Laird, Hot Springs; E. B. Glenn, Asheville.
Oklahoma—
Oregon—Andrew C. Smith, Portland.
Pennsylvania—William T. Bishop, Harrisburg; H. S. McConnel, New Brighton; John B. Roberts, Philadelphia; Wm. M. Welch, Philadelphia; Wm. S. Foster, Pittsburg; Geo. W. Guthrie, Wilkesbarre; G. C. Harman, Huntingdon; C. L. Stevens, Athens.
Rhode Island—John Champlin, Westerly; Frederick T. Rogers, Providence.
South Dakota—J. L. Stewart, Irene.
Tennessee—Daniel E. Nelson, Chattanooga; Louis LeRoy, Nashville.
Texas—H. A. West, Galveston.
Vermont—D. C. Hawley, Burlington.

Virginia—J. R. Gildersleeve, Tazewell; Stuart McGuire, Richmond; R. S. Martin, Stuart.
Washington—Park W. Willis, Seattle.
West Virginia—L. D. Wilson, Wheeling.
Wisconsin—W. T. Sarles, Sparta; H. Reineking, Sheboygan.
Wyoming—E. E. Levers, Spring Valley.
U. S. P. H. and M.-H. S.—Walter Wyman, Washington, D.C.

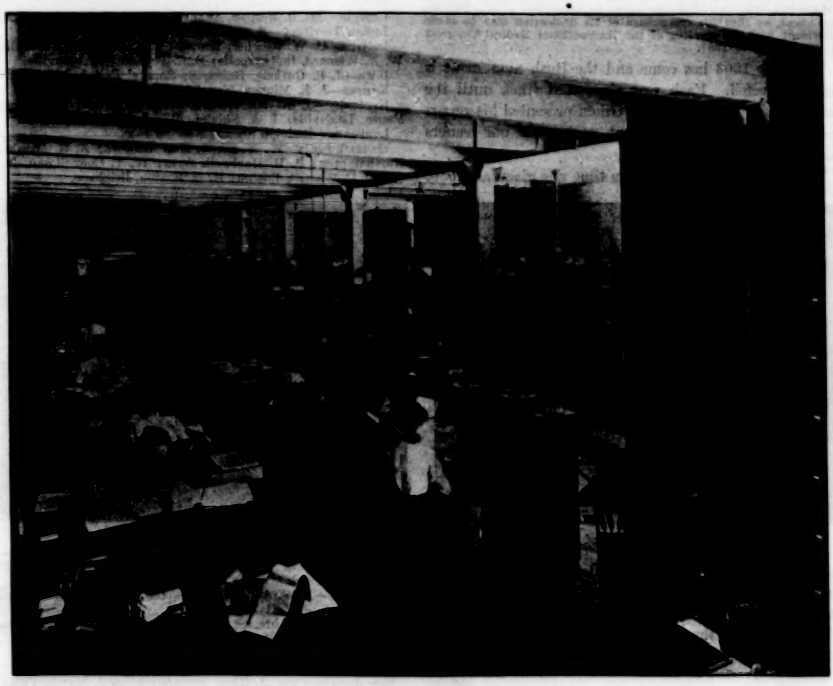
Delegates from the Sections.

Practice of Medicine—J. M. Anders, Philadelphia; C. G. Stockton, Buffalo.
Surgery and Anatomy—W. L. Rodman, Philadelphia; Robert F. Weir, New York.
Obstetrics and Diseases of Women—Edwin Ricketts, Cincinnati; E. E. Montgomery, Philadelphia.
Hygiene and Sanitary Science—N. S. Davis, Jr., Chicago; A. R. Reynolds, Chicago.

SECTION OFFICERS.

We take pleasure in presenting this week half-tone reproductions of the photographs of the officers of the various sections. The success of the Association, as a scientific organization, depends on the manner in which these gentlemen perform their duties, and we believe that the work in the sections of the coming session will show that each of them has lived up to the example of his predecessor. They are deserving of the space allotted to them in this issue of THE JOURNAL.

Seven of the sections wisely re-elected their secretaries at Saratoga, namely: Pathology and Physiology, Joseph McFarland, Philadelphia; Obstetrics and Diseases of Women, C. L. Bonifield, Cincinnati, Ohio; Stomatology, Eugene S. Talbot, Chicago; Nervous and Mental Diseases, F. Savary Pearce, Philadelphia; Cutaneous Medicine and Surgery, R. R. Campbell,



BUSINESS AND EDITORIAL OFFICES.

Ophthalmology—J. A. Lippincott, Pittsburg, Pa.; Frank Allport, Chicago.
Diseases of Children—A. C. Cotton, Chicago; S. W. Kelley, Cleveland, Ohio.
Stomatology—G. V. I. Brown, Milwaukee, Wis.; A. E. Baldwin, Chicago.
Nervous and Mental Diseases—H. N. Moyer, Chicago; Richard Dewey, Wauwatosa, Wis.
Cutaneous Medicine and Surgery—M. B. Hartzell, Philadelphia; W. L. Baum, Chicago.
Laryngology and Otology—Emil Mayer, New York; Norval H. Pearce, Chicago.
Materia Medica, Etc.—O. T. Osborne, New Haven, Conn.; W. B. Hill, Milwaukee, Wis.
Pathology and Physiology—E. R. LeCount, Chicago; J. T. Howard, Jr., Cleveland, Ohio.
Chicago; Laryngology and Otology, J. F. Barnhill, Indianapolis, Ind.; Materia Medica, Pharmacy and Therapeutics, C. S. N. Hallberg, Chicago.

PROPOSED CODE OF ETHICS.

Offered at Saratoga Springs, 1902, and to Be Acted on at New Orleans.

At the last session of the American Medical Association the following action was taken:

Dr. E. Eliot Harris, New York, presented the following resolution:

For more than a year some of the members of the Council of the New York State Medical Association have been engaged in a critical examination of the ethical part of the laws of the American Medical Association, resulting in the preparation of a revision of the

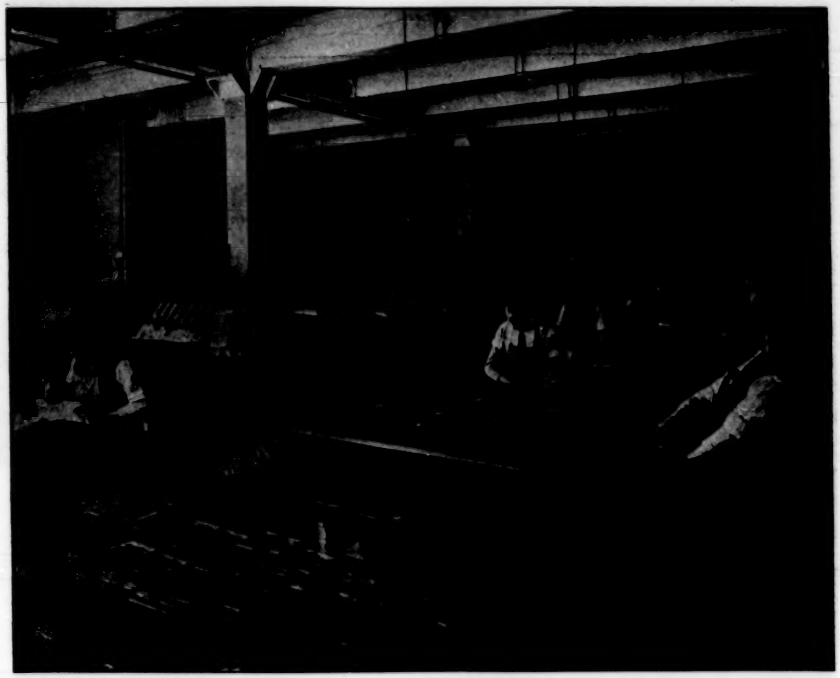
Code of Medical Ethics. This revision has been approved by the Council of the New York State Medical Association, and the delegates have been instructed to present it to the House of Delegates at this session.

Resolved, That the President appoint a committee of five to examine and report for final action at the annual session in 1903 the proposed revised Code of Medical Ethics which is herewith submitted in writing;

Resolved, That the proposed revised Code of Medical Ethics be published in the ASSOCIATION'S JOURNAL three times before the meeting in 1903.

On motion of Dr. C. A. L. Reed, Cincinnati, the resolution was adopted.

The following constitute the committee: Dr. E. Eliot Harris, New York, chairman; Dr. William H. Welch, Baltimore; Dr. T. J. Happel, Tennessee; Dr. Nicholas Senn, Chicago, and Dr. Joseph D. Bryant, New York.



COMPOSING ROOM.

CHAPTER I.—OF THE DUTIES OF PHYSICIANS TO THEIR PATIENTS AND OF THE OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

ARTICLE I.—DUTIES OF PHYSICIANS TO THEIR PATIENTS.

SECTION 1.—Physicians should not only be ever ready to obey the calls of the sick, but should be mindful of the high character of their mission and of the responsibility they must incur in the discharge of momentous duties. In their ministrations they should never forget that the ease, the health, and the lives of those entrusted to their care depend on skill, attention, and fidelity. In their deportment they should unite tenderness, cheerfulness and firmness, and thus inspire all sufferers with gratitude, respect and confidence. These observances are the more sacred because, generally, the only tribunal to adjudge penalties for carelessness or neglect is their own conscience.

SEC. 2.—Every case committed to the charge of a physician should be treated with attention and humanity, and reasonable indulgence should be granted to the caprices of the sick. Secrecy and delicacy should be strictly observed; and the familiar and confidential intercourse to which physicians are admitted, in their professional visits, should be guarded with the most scrupulous fidelity and honor.

SEC. 3.—The obligation of secrecy extends beyond the period of professional services; none of the privacies of individual or domestic life, no infirmity of disposition or flaw of character observed during medical attendance should ever be divulged by physicians, except when imperatively required to do so by the laws of the state. The force of the obligation of secrecy is so great that physicians have been protected in its observance by courts of justice.

SEC. 4.—Frequent visits to the sick are generally requisite, since they enable the physician to arrive at a more perfect knowledge of the disease, and to meet promptly every change which may occur. But unnecessary visits are to be avoided, as they give undue anxiety to the patient.

SEC. 5.—Ordinarily, the physician should not be forward to make gloomy prognostications, but should not fail, on proper occasions, to give to the friends of the patient timely notice of danger when it really exists; and even to the patient, if absolutely necessary. This notice, however, is often so peculiarly alarming when given by the physician, that its deliverance ought to be declined whenever it can be assigned to any other person of good judgment.

SEC. 6.—The physician should be the minister of hope and comfort to the sick, since life may be lengthened or shortened not only by the acts but by the words or manner of the physician whose solemn duty is to avoid all utterances and actions having a tendency to discourage and depress the patient.

SEC. 7.—The medical attendant ought not to abandon a patient because deemed incurable; for, continued attention may be highly useful to the sufferer, and comforting to the relatives, even in the last period of the fatal malady, by alleviating pain and by soothing mental anguish.

SEC. 8.—The opportunity which a physician has of promoting and strengthening the good resolutions of patients suffering under the consequences of vicious conduct ought never to be neglected. Good counsels, or even remonstrances, will give satisfaction, not offense, if they be tactfully proffered and evince a genuine love of

virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

ARTICLE II.—OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

SECTION 1.—The members of the medical profession, on whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease, and health, for the welfare of those who avail themselves of their services, are surely entitled to the highest private and public recognition.

SEC. 2.—The first duty of a patient is to select as medical adviser one who has received a sound general and special education, whose habits are good, and who is not devoted to any pursuit incompatible with professional obligations.

SEC. 3.—The sick should always apply for advice in what may appear to be a trivial case, for the slightest accident may result gravely. It is also important that the patient seek assistance in the forming stage of a violent disease and communicate unreservedly to the physician its supposed cause.

SEC. 4.—The patient should be on friendly terms with the medical adviser and bear in mind that physicians are under the strongest obligations of secrecy.

SEC. 5.—Women should never allow feelings of delicacy to prevent their disclosing the seat of their peculiar complaints. However commendable a modest reserve may be in the common occurrences of life, its strict observance in medicine is often attended with serious consequences, and a patient may sink under a painful disease which might have been prevented had timely intimation been given to the physician.

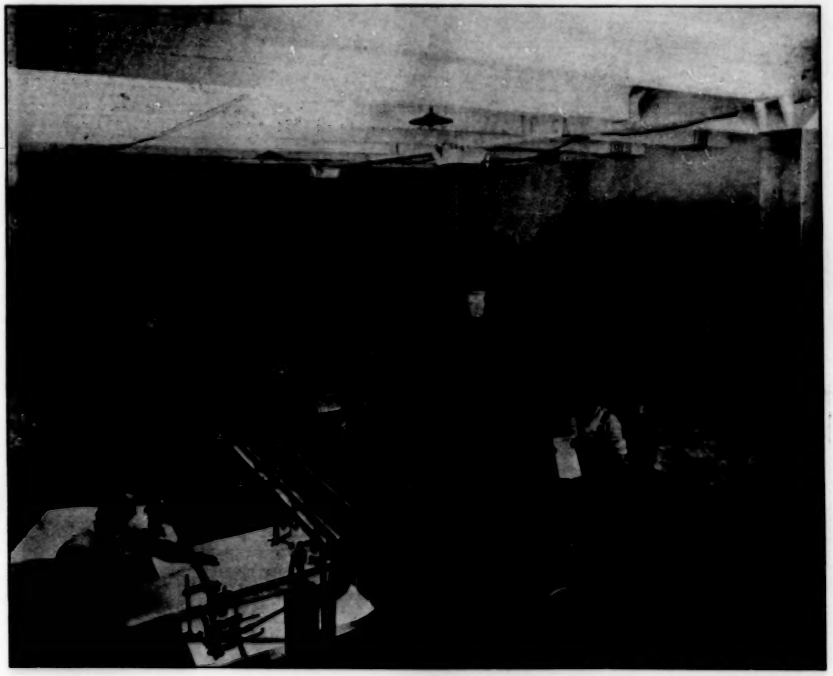
SEC. 6.—The obedience of a patient to the directions of the physician should be prompt and implicit. Failure in one particular may render an otherwise judicious treatment dangerous and even fatal. This remark is equally applicable to the unauthorized renewal of prescriptions, and to diet, drink, raiment and exercise.

SEC. 7.—As patients become convalescent they are apt to suppose that the rules prescribed for them may be disregarded, and the consequence, but too often, is a relapse of the disease.

SEC. 8.—Patients should never allow themselves to be persuaded to take any medicine whatever that may be recommended to them by the self-constituted doctors who are so frequently met with and who pretend to possess infallible remedies for every disease. However simple some of their prescriptions may appear to be, it often happens that, besides being in themselves injurious, they are productive of much mischief by contravening the plan of treatment adopted by the physician in attendance.

SEC. 9.—Whenever possible, the patient should avoid even friendly visits of a physician who is not the regular attendant. But when such visits are received, there should be no conversation on the subject of the patient's disease, as a word may be spoken, without any intention of interference, which may destroy confidence in the course pursued and induce the patient to neglect the prescribed directions.

SEC. 10.—The patient or relatives should never send for a consulting physician without the express consent of the medical attendant.



BINDERY AND MAILING ROOM.

SEC. 11.—Patients should, whenever practicable, send for their physicians in the morning, before the usual hour for going out, and this gives them the opportunity to so apportion their time as to prevent interference of engagements.

SEC. 12.—Except in emergencies patients should avoid calling on their medical advisers during the hours devoted to meals or sleep.

SEC. 13.—The sick should be always in readiness to receive the visits of the physician, as detention, even for a very short time, is often of serious import to some other sufferer.

CHAPTER II.—OF THE DUTIES OF PHYSICIANS TO EACH OTHER AND TO THE PROFESSION AT LARGE.

ARTICLE I.—DUTIES FOR THE SUPPORT OF PROFESSIONAL CHARACTER.

SECTION 1.—Every individual on entering the profession, and thereby becoming entitled to all its privileges and immunities, incurs an obligation to maintain its dignity and honor, to exalt its standing and to extend the bounds of its usefulness.

SEC. 2.—The physician should observe strictly such laws as are instituted for the government of the members of the profession; should honor the fraternity as a body; and, by unwearied diligence, should resort to every honorable means of enriching the science, and, at the same time, entertain a due respect for those seniors who, by their labors, have contributed to its advancement.

SEC. 3.—There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence is a duty every physician owes alike to the profession and to patients. It is due to these, as without it their respect and confidence can not be commanded; and to the profession because no scientific attainments can compensate for the want of correct moral principles.

SEC. 4.—It is incumbent on physicians to be temperate in all things, for the practice of medicine requires the unremitting exercise of a clear and vigorous understanding; and in emergencies—for which no physician should be unprepared—a steady hand, an acute eye, and an unclouded mind are essential to the welfare, and even to the life, of a human being.

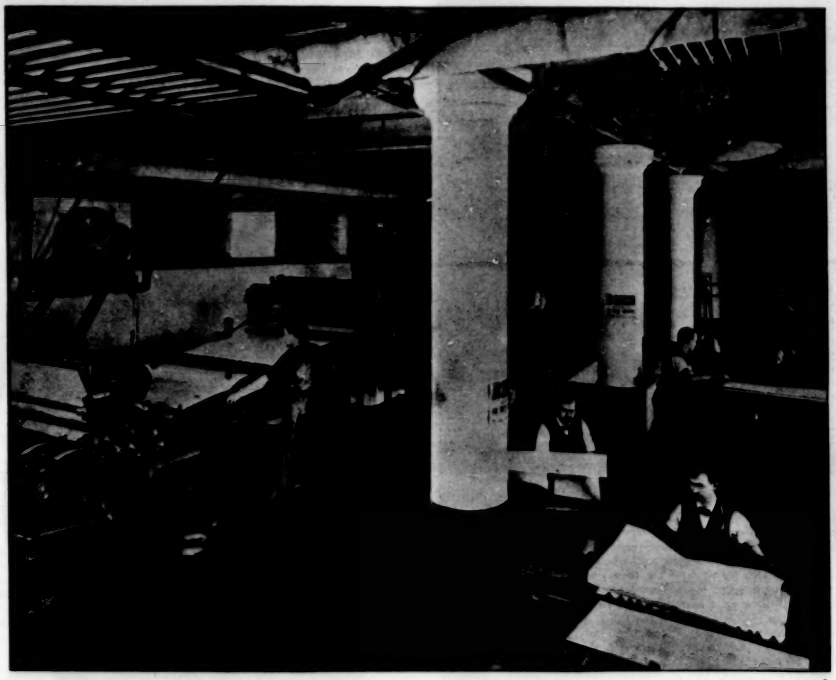
SEC. 5.—It is derogatory to the dignity of the profession to resort to public advertisements or private cards inviting the attention of persons affected with particular diseases, offering advice and medicine gratis and promising radical cures; or to publish cases and operations in the daily prints, or to suffer such publications to be made; to invite laymen (other than relatives who may desire to be at hand) to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success; or to employ any of the other methods of charlatans.

SEC. 6.—Equally derogatory to professional character it is for a physician to hold a patent for any surgical instrument or medicine; or to dispense, or promote the use of, a secret medicine, whether it be composed by this physician or the exclusive property of others, for if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality, and if mystery alone give it public notoriety, such craft implies either disgraceful ignorance or fraudulent avarice. It is highly reprehensible for physicians to give certificates attesting the efficacy of secret medicines, or of any of the other substances that may be used medicinally.

ARTICLE II.—PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

SECTION 1.—All practicing physicians and their immediate dependents are entitled to the gratuitous services of any one or more of the physicians residing near them.

SEC. 2.—Physicians afflicted with disease should not, as a general rule, undertake the treatment of their own sickness, nor of that of members of their family, for obvious reasons. In such circumstances they are peculiarly dependent on each other; therefore, kind offices and professional aid should always be cheerfully and gratuitously afforded. Visits ought not, however, to be obtruded officiously, as such civility may give rise to embarrassment or interfere with that choice on which confidence depends.



PRESS ROOM.

SEC. 3.—When a physician is summoned, from a distance, to the bedside of a colleague in easy financial circumstances, a compensation, proportionate to traveling expenses and to the pecuniary loss entailed by absence from the accustomed field of professional labor, should be made by the patient or relatives.

ARTICLE III.—OF THE DUTIES OF PHYSICIANS AS RESPECTS VICARIOUS OFFICES.

SECTION 1.—The affairs of life, the pursuit of health and the various accidents and contingencies to which a physician is peculiarly exposed sometimes require the temporary withdrawal of this physician from daily professional labor and the appointment of a colleague to act for a specified time.

SEC. 2.—The colleague's compliance is an act of courtesy which should always be performed with the utmost consideration for the interest and character of the family physician, and when exercised for a short period half of the pecuniary obligations for such services should be awarded to the acting physician.

ARTICLE IV.—OF THE DUTIES OF PHYSICIANS IN REGARD TO CONSULTATIONS.

SECTION 1.—The broadest dictates of humanity should be obeyed by physicians whenever and wherever their services are needed to meet emergencies occasioned by disease or accident.

SEC. 2.—The good of the patient being the sole object in view, any physician having a license to practice medicine conferred by a medical board authorized by the state may be aided in consultation.

SEC. 3.—No physician who indicates to the public that his practice is based on a sectarian system of medicine shall be entitled to professional fellowship or to recognition in medical bodies.

SEC. 4.—Consultations should be promoted in difficult cases, as

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they give rise to confidence and more enlarged views in practice.

SEC. 5.—The utmost punctuality should be observed in the visits of physicians when they are to hold consultations, and this is generally practicable, for society has been so considerate as to allow the plea of a professional engagement to take precedence over all others and to be a good reason for the relinquishment of any present occupation.

SEC. 6.—As professional engagements may sometimes interfere and delay one of the parties, the physician who first arrives should wait for a reasonable time, after which the consultation should be considered as postponed to a new appointment.

SEC. 7.—In consultations no rivalship or jealousy should be indulged; candor, probity and all due respect should be observed toward the physician in charge of the case.

SEC. 8.—The attending physician should be the first to question the sick, after which the consultant should have the opportunity to make such further inquiries as may be necessary.

SEC. 9.—After due examination of the patient, both physicians should retire to a private place for deliberation; and the one first in attendance should communicate the directions, agreed on, to the patient or friends, as well as any opinion which it may be thought proper to express.

SEC. 10.—No statement or discussion of the case should take place before the patient or friends, except in the presence of all the physicians attending, and by their common consent; and no opinions or prognostications should be delivered which are not the result of previous deliberation and concurrence.

SEC. 11.—The opinion of the physician in attendance should be delivered first to the patient or friends; and when there are several consultants they should deliver their opinions in the order in which they have been called.

SEC. 12.—No decision should restrain the attending physician from making such variations in the mode of treatment as any subsequent unexpected change in the character of the case may demand. But at the next consultation reasons for the variations should be stated. The same privilege, with its obligation, belongs to the consultant when sent for in an emergency during the absence of the family physician.

SEC. 13.—The attending physician, at any time, may prescribe for the patient; not so the consultant, when alone, except in a case of emergency or when called from a considerable distance. In case of emergency the consultant should do what is needed, and in the other case should do no more than make an examination of the patient and leave a written opinion, under seal, to be delivered to the attending physician.

SEC. 14.—In consultations theoretical discussions should be avoided, as occasioning perplexity and loss of time. For there may be much diversity of opinion concerning speculative points, with perfect agreement in those modes of practice which are founded not on hypothesis, but on experience and observation.

SEC. 15.—All discussions in consultation should be held as confidential. Neither by words nor manner should any of the parties to a consultation assert or intimate that any part of the treatment pursued did not receive his assent.

SEC. 16.—Should an irreconcilable diversity of opinion occur when several physicians are called on in consultation, the opinion of the majority should be considered as decisive; but if the numbers be equal on each side, then the decision should rest with the attending physician.

SEC. 17.—It may happen that two physicians can not agree in their views of the nature of a case and of the treatment to be pursued. In the event of such disagreement a third physician should, if practicable, be called in and, if circumstances prevent the adoption of this course, the patient or friends should make the selection. The physician so designated should take charge of the case and the other should then gracefully retire from any further delibera-

Dr. James B. McElroy, Stovall, Miss., Secretary of the Section on Practice of Medicine.

tion in the consultation, or participation in the management of the case.

SEC. 18.—As circumstances sometimes arise to render a special consultation desirable, when the continued attendance of two physicians might be objectionable to the patient, the physician whose assistance is required in such cases should sedulously guard against all future, unsolicited attendance. Such consultations requiring an extraordinary portion of time and attention, at least a double fee should be expected.

SEC. 19.—A physician who is called in consultation should observe the most honorable and scrupulous regard for the character and standing of the attending physician, whose conduct of the case should be justified as far as can be, consistently with a conscientious

regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in the attending physician.

ARTICLE V.—DUTIES OF PHYSICIANS IN CASES OF INTERFERENCE.

SECTION 1.—Medicine being a liberal profession, those admitted to its ranks should found their expectations of practice entirely on the extent of their medical education.

SEC. 2.—The physician, in his intercourse with a patient under the care of another physician, should observe the strictest caution and reserve; should give no disingenuous hints relative to the nature and treatment of the patient's disorder, nor should the

Dr. A. Palmer Dudley, New York, Chairman of the Section on Obstetrics and Diseases of Women.

course of conduct of this physician directly or indirectly tend to diminish the trust reposed in the attending physician.

SEC. 3.—The same circumspection should be observed when, from motives of business or friendship, a physician is prompted to visit a person who is under the direction of another physician. Indeed, such visits should be avoided, except under peculiar circumstances; and when they are made, no particular inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

SEC. 4.—A physician ought not to take charge of, or prescribe for, a patient who has recently been under the care of another physician in the same illness, except in case of a sudden emergency, or in consultation with the physician previously in attendance, or when that physician has relinquished the case or has been dismissed in due form.

SEC. 5.—Placed in the position stated in the preceding section, the physician should never throw out damaging insinuations on the practice previously adopted, and, indeed, should justify it if consistent with truth and probity; for it often happens that patients become dissatisfied when they are not immediately relieved, and, as many diseases are naturally protracted, the seeming want of success, in the first stage of treatment, affords no evidence of a lack of knowledge or skill.

SEC. 6.—When a physician is called to an urgent case, because the family attendant is not at hand, unless assistance in consultation is desired, this physician should resign the care of the patient immediately on the arrival of the family physician.

SEC. 7.—It often happens, in cases of sudden illness, or of accidents and injuries, owing to the alarm and anxiety of friends, that several physicians are simultaneously summoned. Under these circumstances, courtesy should assign the patient to the first who arrives and who, if necessary, may invoke the aid of some of those present. In such a case, however, the acting physician should cause the family physician to be called, and should withdraw unless requested to continue in attendance.

SEC. 8.—Whenever a physician is called to the patient of another physician during the enforced absence of that physician the case should be surrendered on the return of the absentee.

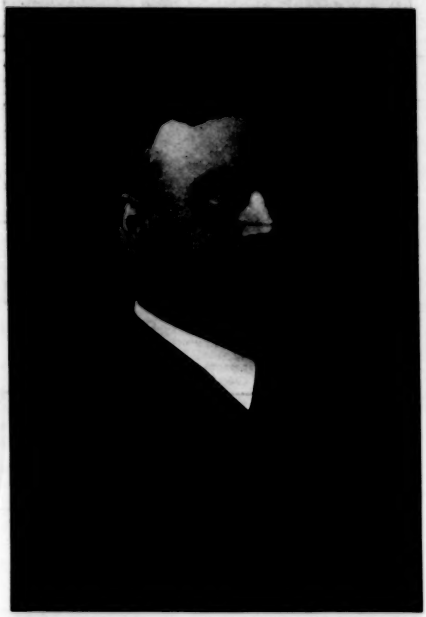
SEC. 9.—A physician, while visiting a sick person in the country, may be asked to see another physician's patient in consequence of a sudden aggravation of the disease. On such an occasion the immediate needs of the patient should be attended to and the case relinquished on the arrival of the attending physician.

SEC. 10.—When a physician who has been engaged to attend an obstetric case is absent and another is sent for, delivery being accomplished during the vicarious attendance, the acting physician is entitled to half the fee, but must resign the patient on the arrival of the physician first engaged.

ARTICLE VI.—OF DIFFERENCES BETWEEN PHYSICIANS.

SECTION 1.—Diversity of opinion and opposition of interest may, in the medical as in other professions, sometimes occasion controversy and even contention. Whenever such cases unfortunately occur and can not be immediately terminated, they should be referred to the arbitration of a sufficient number of physicians or a court-medical.

SEC. 2.—A peculiar reserve must be maintained by physicians toward the public in regard to some professional questions, and as



Dr. C. L. Bonifield, Cincinnati, Secretary of the Section on Obstetrics and Diseases of Women.

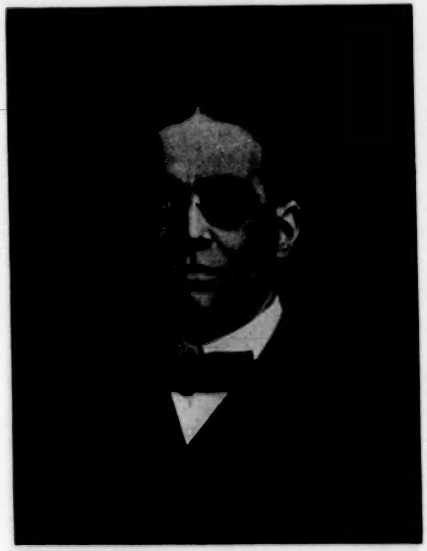
there exist many points in medical ethics and etiquette through which the feelings of physicians may be painfully assailed in their intercourse, and which can not be understood or appreciated by general society, neither the subject-matter of their differences nor the adjudication of the arbitrators should be made public.

ARTICLE VII.—OF PECUNIARY ACKNOWLEDGMENT.

SECTION 1.—There is no profession by the members of which eleemosynary services are more liberally dispensed than the medical, but justice requires that some limits should be placed to their performance.

SEC. 2.—Poverty, mutual professional obligations, and certain of the public duties named in Sections 1 and 2 of Article 1, of Chapter III, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by the rich, or by societies for mutual benefit, for life insurance, or for analogous purposes, or any profession or occupation, can be admitted to possess such privilege.

SEC. 3.—It can not be justly expected of physicians to furnish certificates of inability to serve on juries, or to perform militia duty; or to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without a pecuniary



Dr. James E. Moore, Minneapolis, Chairman of Section on Surgery and Anatomy.

acknowledgment. But to persons in indigent circumstances such services should always be cheerfully and freely accorded.

SEC. 4.—Some general rules should be adopted by the physicians in every town or district relative to the minimum pecuniary acknowledgment from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

SEC. 5.—It is derogatory to professional character for physicians to pay or to offer to pay commissions to any person whatsoever who may recommend to them patients requiring general or special treatment or surgical operations. It is equally derogatory to professional character for physicians to demand or to receive such commissions.

CHAPTER III.—OF THE DUTIES OF THE PROFESSION TO THE PUBLIC AND OF THE OBLIGATIONS OF THE PUBLIC TO THE PROFESSION.

ARTICLE I.—DUTIES OF THE PROFESSION TO THE PUBLIC.

SECTION 1.—As good citizens it is the duty of physicians to be very vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to subjects especially appertaining to their profession, as on questions of sanitary police, public hygiene and legal medicine.

SEC. 2.—It is the province of physicians to enlighten the public in regard to quarantine regulations; to the location, arrangement, and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the sanitary police of towns, as drainage, ventilation, etc.; and in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger, and to continue their labors for the alleviation of the suffering people, even at the risk of their own lives.

SEC. 3.—Physicians, when called on by legally constituted authorities, should always be ready to enlighten inquests and courts of justice on subjects, strictly medical, such as involve questions relating to sanity, legitimacy, murder by poison or other violent means, and various other subjects embraced in the science of medical jurisprudence. It is but just, however, for them to expect due compensation for their services.

SEC. 4.—It is the duty of physicians, who are frequent witnesses of the great wrongs committed by charlatans, and of the injury to health and even destruction of life caused by the use of their treatment, to enlighten the public on these subjects, and to make known the injuries sustained by the unwary from the devices and pretensions of these artful impostors.

SEC. 5.—Physicians ought to use all the influence which they possess to discourage pharmacists from vending the secret or other medicines of charlatans, or from being in any way engaged in their manufacture.

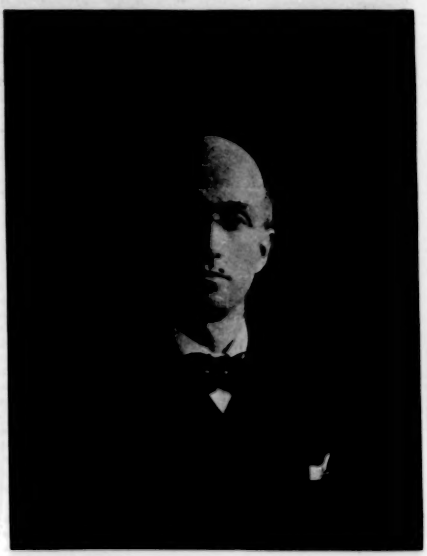
ARTICLE II.—OBLIGATIONS OF THE PUBLIC TO PHYSICIANS.

SECTION 1.—The benefits accruing to the public, directly and indirectly, from the unwearied labors of the profession, are so numerous and important that physicians are entitled to the utmost consideration and respect from the community.

SEC. 2.—The public ought to entertain a just appreciation of medical qualifications; to make a proper discrimination between true science and the assumptions of ignorance and charlatanism; and to afford every encouragement and facility for the acquisition of thorough medical education.

Book Notices.

A SYSTEM OF CLINICAL MEDICINE, Dealing with the Diagnosis, Prognosis and Treatment of Disease for Students and Practitioners.

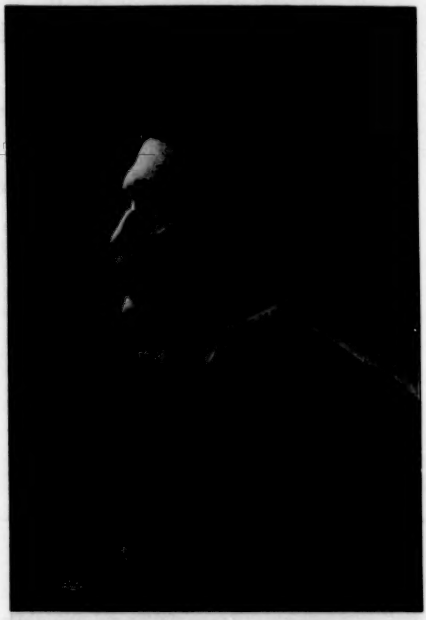


Dr. John C. Munro, Boston, Secretary of the Section on Surgery and Anatomy.

By Thomas D. Savill, M.D. Lond., Physician to the West End Hospital for Diseases of the Nervous System. Volume I. Local Diseases and Microbic Disorders. Cloth. Pp. 702. Price, $4.38 net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

This is a treatise on practice on a somewhat novel plan. The author has endeavored to bring in modern methods and in this work he follows up the inductive method of going from particulars to generalities, leading up through the symptoms

to the diagnosis. Each chapter is divided into three parts, one treating of the symptoms which may indicate disease of the organism or region under discussion, the errors which may be made and the causes which give rise to them. The second part treats of the physical signs of disease in the region and the methods used to elicit them. The third and the largest portion begins with the clinical signs of the various maladies affecting that region and a summary of the routine procedure to be adopted, followed by sections dealing with several diseases arranged according to their clinical relationships; for example,



Dr. H. M. Bracken, Minneapolis, Chairman of the Section on Hygiene and Sanitary Science.

quoting the author in his introduction, in chapter 3 on the heart, "part A describes and differentiates the various causes of breathlessness, palpitation, precordial pain and other symptoms which may be indicative of heart disease. Part B describes percussion, auscultation and other methods of examining the heart and part C deals seriatim first with acute and secondly with chronic disturbances classified and arranged on a clinical basis." With this explanation the general plan of the work can be readily appreciated. There are certain special features, however, which call for notice. One is the emphasis given to salient features of disease in italicized paragraphs at the head of each section treating of a separate malady. Another is a list of formulas at the close of the work as well as the description of other therapeutic methods, such as the general treatment of fever, etc., and the description of the exercises according to the Nauheim method for cardiac diseases. The book is not a complete treatise on the practice of medicine, dealing as it does only with the so-called local diseases and those diseases causing local symptoms and specific fevers of microbic origin. It is, however, complete in itself. There are one or two points in which the book is not up to date; the author, for example, states in his note on yellow fever that it is conveyed by fomites, ignoring the recent striking researches on the subject and the mosquito theory of the transmission altogether. On the whole, the book can not fail to prove a useful one.

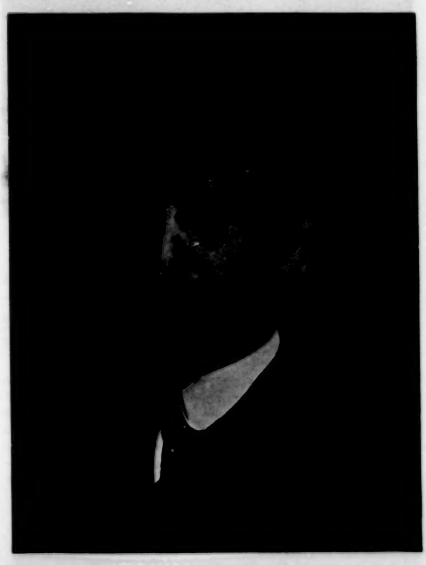
CLINICAL SURGERY for the Instruction of Practitioners and Students of Surgery. By A. J. Ochsner, B.S., F.R.M.S., M.D., Chicago, Surgeon-in-Chief, Augustana Hospital and St. Mary's Hospital. Pp. 481. Price: Cloth, $6.00; Leather, $7.00. Chicago: Cleveland Press (The Clinical Review Publishing Co.).

The author says in the preface that he "lays no claims to the invention of a single new operation, nor has he produced a new or modified instrument, but has contented himself with applying to his surgical work what seemed best in the practice of the surgeons of the past and present."

The book simply reflects the methods of the author in his daily work, and no attempt is made to thoroughly cover any subject from a surgical point of view. Pathology is scarcely touched on, and much of the work consists in a detail of clinical cases and what was done for them. Some of the views held by the author will not be concurred in. For instance, there seems to be no good reason, when operating on a child for inguinal hernia, why the deeper layers should not be closed as well as when operating on an adult. His views in regard to the treatment of appendicitis have already been severely criticised by a number of surgeons.

The large plates are made a particular feature of the book. Some of them are very good, but Plates LVI and LVIII are libels on anatomy. The wide margin to the pages for marginal notes is of doubtful value, because one does not buy a book of this kind in which to write one's opinions, but to learn the opinions of the author.

The work must be looked on more as a detail of clinical cases than as a real contribution to surgery.

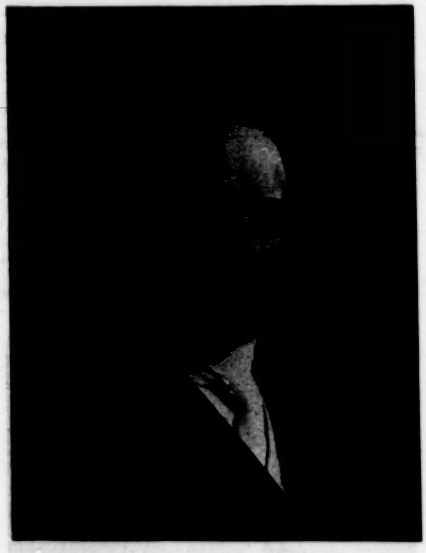


Dr. Gardner T. Swarts, Providence, R. I., Secretary of the Section on Hygiene and Sanitary Science.

DISEASES OF THE SKIN: Their Description, Pathology, Diagnosis and Treatment, with Special Reference to the Skin Eruptions of Children, and an Analysis of 15,000 Cases of Skin Disease. By H. Radcliffe Crocker, M.D. (Lond.), F.R.C.P., Physician for Diseases of the Skin in University College Hospital. Third Edition, Revised and Enlarged. With Four Plates and 112 Illustrations. Cloth. Pp. 1466. Price, $5.00. Philadelphia: P. Blakiston's Son & Co. 1903.

Crocker's work on diseases of the skin has been a standard English treatise since the first edition appeared, and the ap-

pearance of a third edition is, therefore, only what might be expected. The present volume is greatly expanded and covers the subject much more thoroughly than the previous edition; in fact, it is one of the fullest treatises on skin disorders in our language. The illustrations, while not extensive, are useful. There are few, if any, skin diseases that are not described in this work. It seems to us, though, to be occasionally weak in regard to treatment and not entirely up to date. For example, it does not give the results of the latest experience with the *x*-ray management of certain skin diseases. The book will



Dr. John E. Weeks, New York, Chairman of the Section on Ophthalmology.

doubtless long hold its own among the many other excellent treatises on diseases of the skin.

DISEASES OF THE STOMACH. A Text-Book for Practitioners and Students. By Max Einhorn, M.D., Professor in Clinical Medicine at the New York Post-Graduate Medical School and Hospital. Third Revised Edition. Cloth. Pp. 534. Price, $3.50 net. New York: Wm. Wood. & Co. 1903.

This is a fully revised edition of the author's former treatise with a number of additions, making it considerably different from the first edition, the second having been mainly a reprint of the first. Those who possess and depend on either of the former editions will find it necessary to obtain this one, the advances in this special department of medicine requiring considerable change to bring the work up to our present knowledge.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

To Remove Odors.

Dr. Cheves Bevill of Winfield, Ark., on reading the reference to the use of carbolic acid as a deodorant, on page 1020 of THE JOURNAL, April 11, suggests the use of spirits of turpentine either full strength or with equal parts of glycerin. He says that he has never found anything to be compared to it for this purpose. He reported its use in the "St. Louis Weekly Medical Review" in 1888. Turpentine may also be used on tampons or on absorbent gauze in cleansing wounds. Both the offensive odor and the tendency to hemorrhage will be lessened.

Hyperchlorhydria.

The following combinations have been used with success in the treatment of pyrosis:

℞.	Bismuthi subcarb.	ʒiv	15
	Tinct. hyoscyami	ʒiv	15
	Aquæ camphoræ q. s. ad	ʒiii	90

M. Sig.: Shake and take one teaspoonful an hour before each meal; or:

℞.	Argenti nitratis	gr. iv	25
	Ext. hyoscyami		
	Pulv. camphoræ, ää	gr. vi	35

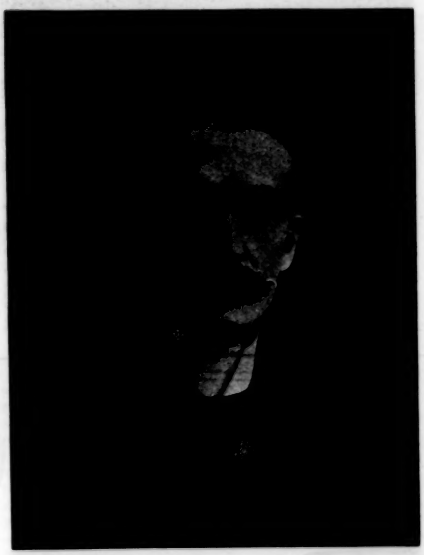
M. Ft. pilulæ No. xxiv. Sig: One pill to be taken one hour before each meal; or:

℞.	Tinct. hyoscyami	ʒiv	15
	Strontii bromidi	ʒiss-v	10-20
	Elix. simplicis q. s. ad	ʒviii	240

M. Sig.: Two to four teaspoonfuls in a glass of water at meal time to relieve the distress.

Eczema.

The following combination is recommended by the "Indian Med. Gazette" in the treatment of eczema:



Dr. Frank C. Todd, Minneapolis, Secretary of the Section on Ophthalmology.

℞.	Acidi borici	gr. xxx	2
	Zinci oxidi		
	Amyli tritici, ää	ʒvi	24
	Liq. petrolati	ʒxiii	52

M. Sig.: Apply twice daily with a glass rod. Smear the salve thickly over the affected part and then cover it with a layer of cotton wool and apply a suitable bandage. The parts should be thoroughly cleansed every third or fourth day and a fresh application made. This may be repeated until all signs of inflammation have disappeared.

The following ointment is recommended by "Bul. Gen. de Ther." in the treatment of eczema:

℞ Naphthol camphoratæ ..... gr. viiss | 50
Zinci oxidi ..... gr. lxxv | 5
Liq. petrolati ..... ʒxii | 48
M. Ft. unguentum. Sig.: Apply locally.

Sepsis Following Abortion.

Henry, in "Med. News," recommends the following outline of treatment of sepsis complicating abortion: Remove all debris from the uterus by means of the finger or sharp curette

Dr. John C. Cook, Chicago, Chairman of the Section on Diseases of Children.

followed by flushing and thoroughly cleanse the raw surfaces, the cervix, vagina, and vulva. These raw surfaces should then be dried and a 95 per cent. solution of carbolic acid applied to them freely, washing away the surplus with sterile water. No tubes or packing should be left either in the uterus or vagina unless hemorrhage should require it.

According to the author a 2 per cent. carbolized vaginal douche should be used twice daily. The bowels should be kept free by the administration of one-half grain (.03) of calomel every hour for four hours, followed by the ordinary dose of salts.

Quinin should be given in three-grain doses (.20) every four hours, alternately with ferric chlorid given in fifteen minim doses (1.00) well diluted.

Nourishment consisting of milk, eggs and proper stimulants should be given every four hours.

Hemorrhoids.

According to an abstract in "N. Y. Med. Jour." hemorrhoids may be so treated medically as to cause no great discomfort, unless they become infected, if the rules of hygiene are properly observed. Sitz baths should be taken frequently. Moderate exercise only should be taken to diminish local congestion, over-indulgence in meat and spiced foods, while vegetables and fruits must be taken freely. The bowels must be regulated, a movement obtained, if possible, just before bedtime, as the hemorrhoids swell greatly after defecation and are reduced during the night. Instead of resorting to the use of drastic purgatives a teaspoonful of the following should be taken at bedtime:

℞ Calcined magnesiæ
Potassii bitartratis
Sacchari lactis, ää ..... ʒss | 15
M. Sig.: One teaspoonful at bedtime.

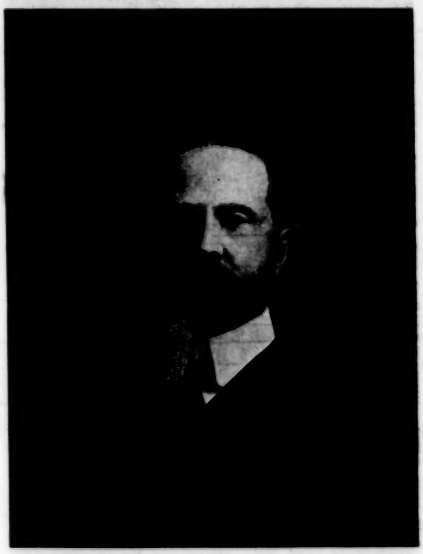
Enemas are of value and may be taken cold. However, the author states that they are preferably taken hot when there is no pain, as the decongestive action of heat is more prolonged than that of cold. As an astringent, a teaspoonful of alum may be added to the enema.

The following combination is sometimes recommended internally:

℞ Ext. hamamelidis ..... gr. 3/4 | 05
Ext. capsici aqueous ..... gr. iss | 09
M. Ft. pil. No. i. Sig.: One such pill three or four times a day.

When the hemorrhoids protrude externally and are accompanied by pain, a pledget of cotton may be soaked in a 1 per cent. solution of cocain and applied locally; this will relieve the pain temporarily, but the inflammation must subside before permanent relief can be obtained. Applications of very hot or very cold water are recommended by the author or liquor plumbi subacetatis may be employed or spraying with hot boric acid solution. The anus must be kept clean and only absorbent cotton used in order to produce no irritation.

In cases of internal hemorrhoids coming down during defecation and returned with difficulty, the patient should be in-



Dr. Thomas S. Southworth, New York, Secretary of the Section on Diseases of Children.

structed to lie on his side with the lower thigh extended and the upper one flexed and with a compress soaked in water or olive oil they should be reduced with gentle taxis.

The following combinations are recommended in the form of suppositories:

℞ Ext. krameriæ ..... gr. viiss | 50
Cocainæ hydrochlor. ..... gr. 1/3 | 02
Ol. theobromæ ..... ʒi | 4
M. Ft. suppos. No. i. Sig.: One such to be used night and morning to relieve the pain.

Or the following, which is made up according to Unna's formula:

B. Chrysarobin	gr. v	30
Iodoformi	gr. iss	09
Ext. belladonnæ	gr. 3/4	05
Olei theobromæ	3v	20

M. Ft. suppos. No. v. Sig.: One to be inserted night and morning.

If hemorrhage should occur, cold applications may be applied or water containing 5 per cent of alum. Mathieu recommends

Dr. M. L. Rhein, New York, Chairman of the Section on Stomatology.

a hot solution (118 F.) containing gr. 60 (4.00) of calcium chlorid to the quart. If the foregoing proves unsuccessful the following suppository may be employed:

B. Antipyrini		
Salol, ää	gr. iv	25
Ext. belladonnæ	gr. 1/6	01
Ol. theobromæ q. s.		

M. Ft. suppos. No. i. Sig.: To be inserted to check hemorrhage

Internally the following is of service:

B. Calcii chloridi	gr. lx	4
Syrupi simplicis	ʒi	30
Aquæ	ʒiv	120

M. Sig.: One tablespoonful every hour.

Pertussis.

Fournier, in "Med. Bul.," recommends the following combination as an inhalation in the treatment of whooping cough, which he states has been of great value to him in a recent epidemic:

B. Glycerini	ʒiiss	10
Creosoti	m. lxxv	5
Essentiæ terebinthinæ	ʒi	4
Essentiæ eucalypti	m. xlv	3
Essentiæ caryophylli	m. xv	1

M. Sig.: As an inhalation.

A mask similar to that employed in narcosis is used, and about ten drops of the mixture are poured on the center of the mask. Violent fits of coughing are noticed at first, when the mask should be removed until the child becomes accustomed to breathing the preparation.

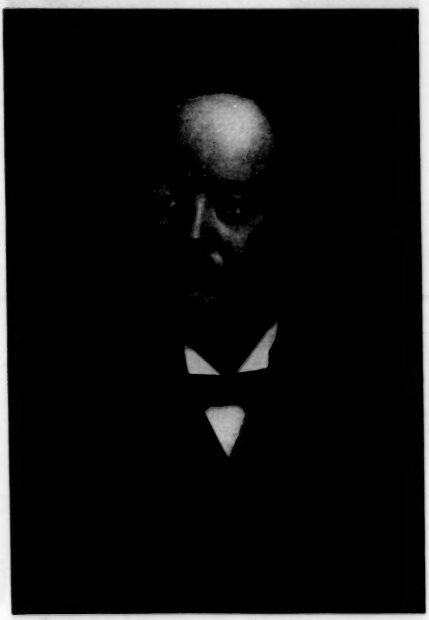
Calomel in Children's Diseases.

The "Indian Med. Record," in commenting on the value of calomel in children's diseases, states that it may be given in three quarter grain doses (.05) for each year of age This dose may be given alone in the morning while fasting or mixed with equal quantity of scammony or jalap and may be administered in jam, honey, sweet mucilage, syrup or with sugar. It is slow in acting, requiring, perhaps, half a day. In the infective diseases of children the author recommends it in doses of grain 1/6 (.01) to grain 1/2 (.03) every two or three hours, according to age. In jaundice, congestion of the liver or cirrhosis it should be given in still smaller doses, gr. 1/6 (.01) to gr. 1/3 (.02) being given every morning for eight days. In the treatment of tapeworm it may be combined with the oil of male fern, and for ascarides it may be given in the following combination:

B. Santonin		
Hydrarg. chloridi mitis, ää	gr. iii	20
Sacchari	gr. lxx	4 65

M. Ft. chartulæ No ix. Sig.: Three to be given each morning, at intervals of one hour, for three days.

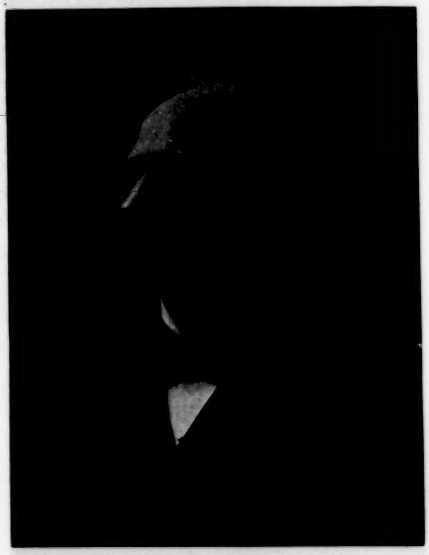
As a gastrointestinal disinfectant, in the treatment of flatu-



Dr. E. S. Talbot, Chicago, Secretary of the Section on Stomatology.

lent colic of infants, it is recommended in still smaller doses ranging in size from grain 1/12 (.005) to gr. 1/3 (.02). It may be used in such doses as the foregoing in the treatment of vomiting, green stools and acute febrile gastritis or when the temperature rises in the course of subacute or chronic gastro-enteritis, after the administration of which the temperature will usually drop. In the treatment of infantile cholera it is recommended that the stomach first be irrigated with warm water and as soon as the vomiting ceases the administration of calomel should be commenced, and continued every two hours

until ten or twelve powders have been taken, when it will usually show its good results. It is also recommended in the treatment of catarrhal jaundice of children. The following precautions are attached in the administration of calomel: When it is mixed with sugar it should be added at the time the powder is given to the infant; prolonged contact leads to some formation of corrosive sublimate. It should also be kept in the dark as exposure to sunlight decomposes it. Calomel is incompatible with chlorids, iodids and hydrocyanic acid; it



Dr. F. W. Langdon, Cincinnati, Chairman of the Section on Nervous and Mental Diseases.

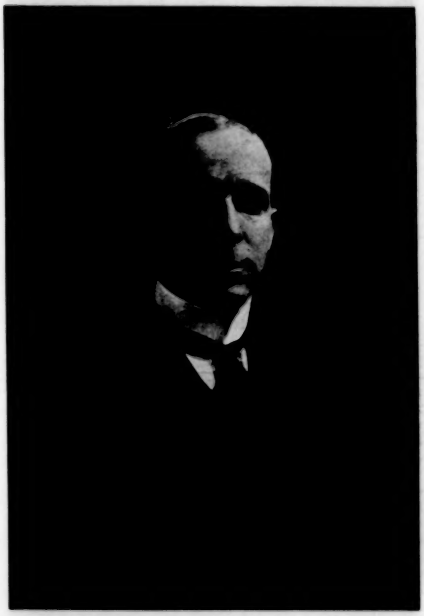
should not, therefore, be given after a meal if salt has been used, nor with bitter almonds or cherry laurel water nor with the iodids.

Medicolegal.

Taking Deposition of Busy Physician Not Authorized.—The Mississippi Code provides for the taking of depositions where on account of a witness being about to depart from the state, or because of his sickness, or other causes, he will likely be unable to attend trial But that one is a physician in large practice, "and that it is likely that the said witness will be unable to attend trial," etc., the Supreme Court of Mississippi holds, American Express Company vs. Bradford, does not bring the instance within the category meant by the words "or other causes" in the statute.

Physician May Write Prescription for Himself.—Article 405 of the Penal Code of Texas of 1901 provides, among other things, that if any physician shall give a prescription to be used in obtaining any intoxicating liquor in any county, justice precinct, city or town, in which the sale of intoxicating liquor has been prohibited under the laws of the state, to any one who is not actually sick, and without a personal examination of such person, he shall be punished, etc. The Court of Criminal Appeals of Texas holds, Hawk vs. State, that it was the intent of the legislature by this article to make it an offense to give a prescription to another party than the one writing the prescription, and that it is not unlawful for any one to write a prescription for himself.

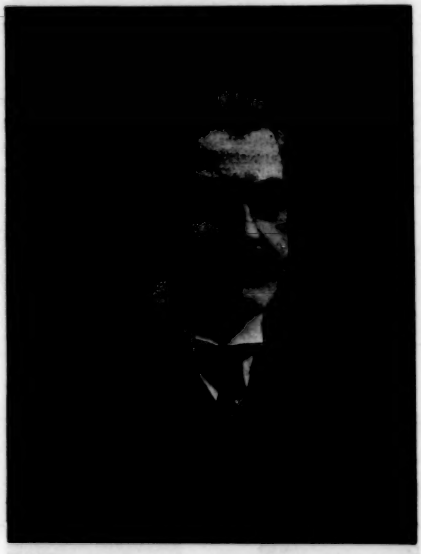
By Whom Professional Attendance Must Be Proved.—In the case of Jennings vs. the Supreme Council of the Loyal Additional Benefit Association, brought to recover on a beneficiary certificate, the first appellate division of the Supreme Court of New York holds that the burden of showing that the testimony of a physician was privileged was on the party suing, who objected thereto. This was neither shown or attempted to be shown by the examination of the physician himself; and it did not appear from his examination, so far as the record disclosed, that he ever attended the insured professionally. And it will not do, the court thinks, to rule out the testimony of a physician on the ground that the evidence is privileged from the mere fact that some other witness has incidentally testified to professional treatment by the physician of the person concerning whose appearance or state of health the inquiry is made. Here, for aught that appeared, if the party suing had sought to show by the examination of the physician in question that his testimony was privileged, the physician might have denied that he ever treated the insured professionally. Furthermore, the court says, if it appeared that the physician had treated the insured professionally, the only privileged evidence would have been the information derived from such professional attendance. It was perfectly competent to show by him what he observed of the insured and knew of him on other occasions when not attending him professionally; for example, what he saw and learned of the insured's appearance and condition at times when he was attending other members of the family.



Dr. F. Savary Pearce, Philadelphia, Secretary of the Section on Nervous and Mental Diseases.

Mental Suffering as an Element of Damages.—The Supreme Court of Pennsylvania says, in Linn vs. Duquesne Borough, that mental suffering has not generally been recognized as an element of damages for which compensation can be allowed,

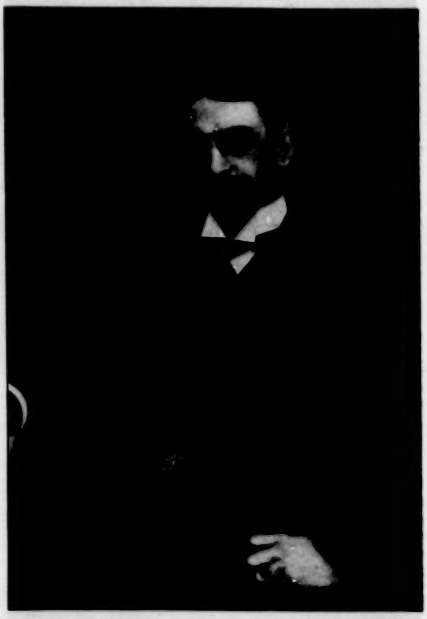
unless it is directly connected with a physical injury, or is the direct and natural result of a wanton and intentional wrong. Where a claim is for mental suffering that grows out of, or is connected with, a physical injury, however slight, there is some basis for determining its genuineness, and the extent to which it affects the claimant. But as the basis of an independent action, mental suffering presents no features by which a court or jury can determine either its existence or its extent, and claims founded on it have generally been regarded as too uncertain and speculative for consideration. Excepting cases in some jurisdictions where recoveries have been had for the



Dr. John A. Fordyce, New York, Chairman of the Section on Cutaneous Medicine and Surgery.

failure to deliver telegrams announcing illness or death, or other matters of personal concern, but not of pecuniary importance, the instances are very few in which an independent action has been sustained for mental suffering alone. The decided trend of decision both in this country and in England is against the maintenance of such an action, or the allowance for mental suffering as an element of damages when distinct from physical injury. The cases in which mental suffering has been considered as an element of damages are those in which the suffering was caused by the sense of peril at the time of the physical injury, or was incident to the physical pain, and formed a part of the actual injury. The objections to making mental suffering the sole ground of recovery apply with equal force to allowing it as an element of damages when it is not a part of the actual injury, but arises afterward from regret, disappointment, or anxiety. There are the same opportunities for establishing fanciful or fraudulent claims by testimony, which it is impossible to contradict or impeach, and the injustice of holding a party responsible for the unforeseen consequences of mere neglect is as great in one case as the other.

Sale of Practice with Agreement to Relinquish Office.—A physician sold a house and lots, his good will as a physician, and also agreed to relinquish to the purchaser his office for the practice of medicine and surgery. As the purchaser knew, he did not own the office in which he was situated, but, with another physician, as partners, had rented the office. The seller's partner expressed himself satisfied with the change, though subsequently proposed such terms for the use of the office, of which he had meanwhile obtained a lease, that the purchaser aforementioned declined to have more to do with the contract. Then the seller sued him for $500 damages for breach of contract, and recovered a judgment for $400. The Court of Appeals of Kentucky holds, Wallingford vs. Aitkins, that it could not, by any reasonable construction of the contract, be construed that the seller was to rent and pay the rent to the owner of the office for the purchaser. It also holds that when the purchaser announced by letter that he would not comply with his contract, this was a renunciation of the contract, and the seller then had the right to sue him for a breach of it. The jury were instructed that when the purchaser mailed to the seller the letter declaring that he declined to have anything more to do with the contract, the seller had nothing further to do in the premises; this was a renunciation of the contract on which the suit was founded; and the seller was entitled to such damages as the jury might believe from the evidence he had sustained by reason thereof, not exceeding the sum of $500, the amount claimed. The language of the contract that the seller agreed "to relinquish his office for the practice of medicine and surgery" to the purchaser, simply meant that he was to vacate



Dr. R. R. Campbell, Chicago, Secretary of the Section on Cutaneous Medicine and Surgery.

the office and leave the same to the use of the purchaser, if he chose to occupy it, and if the jury believed from the evidence that the seller was able, ready and willing to so relinquish, then the law was for the seller, and the jury would so find. The measure of damages in this cause was the difference between the contract price of $3,500 to be paid the seller by the purchaser, under the contract, and the market value of the property at the time of the breach of the contract and when sold, not exceeding $500, the amount claimed. The court of appeals holds that these instructions were proper, and covered the law of the case.

Current Medical Literature.

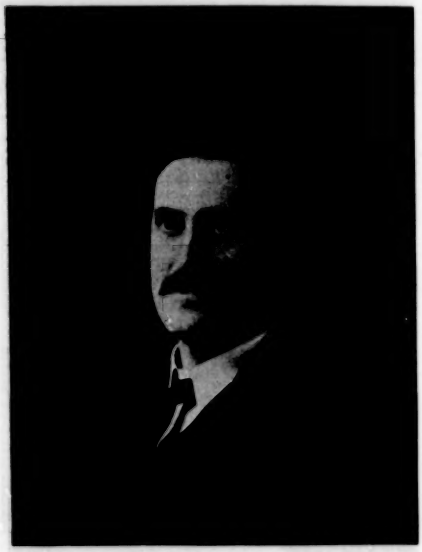
AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

April 18.

1 *The Therapeutic Value of the Roentgen Ray in the Treatment of Pseudo-Leukemia. N. Senn.
2 *A Plea for the Non-Hospital or Office Treatment of Diseases of the Rectum and Anus. Samuel G. Gant.
3 The Practical Uses of Hypnotic Suggestion. William L. Howard.



Dr. George L. Richards, Fall River, Mass., Chairman of the Section on Laryngology and Otology.

4 *The Work Performed by the Diagnosis Laboratory of the Department of Health in Connection with Ehrlich's Diazo Reaction During 1902. J. S. Billings, Jr.
5 *The Treatment of Some of the Surgical Complications of Typhoid Fever. John F. Erdmann.
6 *Is the Cognomen, "Chemical Physiology," Scientific? A Study of Vital Processes. Joseph Clements.
7 The Management of Occipitoposterior Positions of the Presenting Head. (Concluded.) Walter J. Cavanagh.

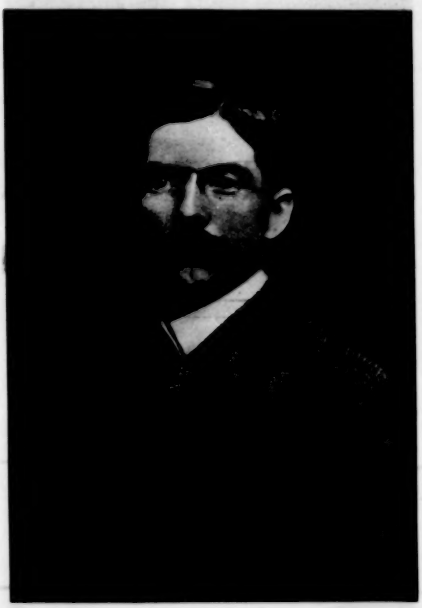
1. **X-Rays in Pseudoleukemia.**—Senn reports two cases in which, in view of the hopeless condition, he suggested the use of the rays, in addition to giving arsenic and iron. The benefit was great, both patients now considering themselves in perfect health. He says in his remarks that there is no doubt that the constitutional disturbances which follow the prolonged use of the *x*-ray, and which set in simultaneously with the progressive diminution in the size of the glands, were due to toxemia caused by absorption of the degenerative products of pseudoleukemia. This was also undoubtedly the cause of the increased enlargement of the spleen, which was noted after the second series of applications in the second case. The constitutional disturbances were decided and annoying itching, burning, pigmentation, etc. He says the success attained in these two cases by the use of the *x*-ray leaves no doubt as to the curative effect of the rays in the treatment of pseudoleukemia.

2. **Rectal and Anal Disease.**—The forms of trouble which Gant would treat in the office or away from the hospital are external and internal hemorrhoids, in the latter of which he uses injections as well as the ligature, polypi in the rectum, anorectal abscess, fistula, fissure of the anus, ulcer, pruritus, constipation and fecal impaction. Cancer and stricture can hardly be operated on in the office excepting when in the lower rectum, but in most cases the local treatment and topical applications, etc., can do much toward improving the condition.

4. **The Diazo Reaction.**—The conclusions derived from investigations by this method in the laboratory of the New York Department of Health are given by Billings as follows:

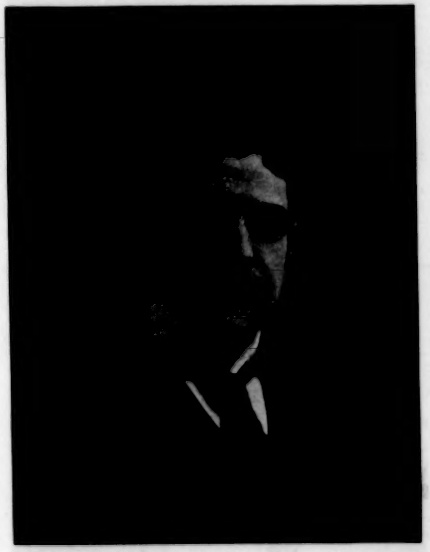
1. The examination of the urine in cases of suspected typhoid fever is of value, provided that its limitations are recognized.
2. While not so absolutely pathognomonic of typhoid fever, yet the diazo reaction is even more constantly present in that disease than the Widal reaction. So that its absence at a period when it should be present, if the case is one of typhoid fever, is of considerable value in making a negative diagnosis.
3. In a majority of instances the diazo reaction is present in the urine at least forty-eight hours earlier than the Widal reaction in the blood.
4. It disappears much earlier than the Widal reaction, however, and negative results obtained later than the second week are of little or no value.
5. "Doubtful reactions" have slight significance.

5. **Typhoid Fever Complications.**—The complications of typhoid discussed here by Erdmann are liver abscess, perforation of the gall bladder, cholecystitis and intestinal perforation. The operative treatment of each is discussed. For liver abscess, opening, either by rib excision or otherwise, is advised with subsequent drainage. He does not believe in delaying pus evacuations at the expense of the patient's vitality. In cases of perforation of the gall bladder there is only one treatment, he says, cholecystectomy, though the condition of the patient must weigh with us somewhat in the consideration, and cholecystotomy must be done in certain cases. Repair by suture is unwarranted. Operative interference in cholecystitis depends largely on the symptoms presenting. If marked rigidity of the upper rectus segment continues for thirty-six to forty-eight hours without any diminution, and septic conditions are indicated by the temperature and pulse, or rupture of the



Dr. J. F. Barnhill, Indianapolis, Secretary of the Section on Laryngology and Otology.

bladder threatens, then cholecystotomy should be performed if the patient's condition is bad or cholangitis is present; otherwise cholecystectomy. In all cases the abdomen may be closed without drainage unless we leave the cystic duct open for drainage of the hepatic fluid. The statistics of the operation for intestinal perforation are noted and the principal question seems to be whether we should wait six to twelve hours for subsidence of shock. He is inclined to answer this in the negative from his study of the statistics. The suture to be employed is either the Lembert or the circular purse-string



Dr. S. Solis Cohen, Philadelphia, Chairman of the Section on Materia Medica, Pharmacy and Therapeutics.

when inversion is possible. The question of drainage can be settled only by experience. He believes that with a fairly clean toilet, no drainage should be used.

6. Vital Processes.—Clements' article is an argument in favor of the vitalistic point of view in physiology.

Medical Record, New York.

April 18.

8 *A Report of Final Results in Two Cases of Polyarthritis in Children of the Type First Described by Still, together with Remarks on Rheumatoid Arthritis. Royal Whitman.
9 *"Eye-strain" in Youth and Its Modern Treatment. Ambrose L. Ranney.
10 Tuberculous (Basilar) Cerebrospinal Meningitis and Delusional Insanity Complicating Pulmonary and Laryngeal Tuberculosis. Henry Levien.
11 *Resection of Intestine, with Report of Three Interesting Cases. A. E. Isaacs.

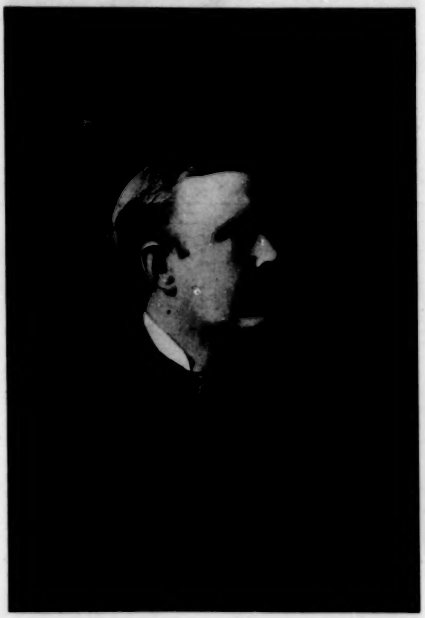
8. Polyarthritis of the Still Type in Children.—The two cases reported by Whitman are, as he says, undoubtedly samples of the disease described by Still in 1897, consisting in general chronic progressive enlargement of the joints, with general enlargement of the glands and spleen. The cases are elaborately reported, with illustrations and radiograph. One of them recovered, which is apparently decidedly different from the usual course of the disease. Recovery in this case was apparently completed by an attack of acute disease, scarlatina, after which the patient regained his former health. The author remarks in regard to the nature of rheumatoid arthritis, and seems to doubt the infectious nature of the disorder as well as other theories that have been advanced.

9. Eye-Strain in Youth.—Ranney discusses this disorder and insists on its importance. His conclusions are:

1. Eye-strain can not be recognized too early in youth.
2. Its scientific investigation by modern methods and its radical correction may favorably modify both physical and mental development.
3. The neglect of an existing eye-strain may in time allow it to exhaust the reserve nerve capital of the sufferer and produce untold ills both of body and mind.
4. No child should ever be allowed to begin education until it is known that its eyes are properly fitted for the work.
5. Legislative enactment should, and surely will in time, compel an eye examination of every child before it enters the public schools.
6. Teachers should also be instructed in the rudimentary steps of vision testing.
7. Tests for mal-adjustment of eye-muscles should be made on every child as thoroughly and intelligently as tests for errors of refraction are made prior to its education.
8. A knowledge of the possible effects of eye-strain on mental and physical development can not be too widely disseminated among parents and teachers.
9. The direct causal relationship between "eye-strain" and nervous diseases is too well established to-day to require further proof, or even to justify further discussion.
10. The modern methods of testing for anomalies of adjustment of eye-muscles are the only ones that can furnish us with scientific and accurate information.

The time has happily passed when any oculist can instruct a patient to simply follow with the eyes some object held before the eyes, and then on that test alone give a final decision as to whether mal-adjustment of the eye-muscles exists or does not exist.

11. The cure of disease to day is intelligently based on the search *for its cause* rather than on an indiscriminate use of drugs; and the prevention of diseases is rapidly becoming more important to the medical mind, and also to the laity, than its cure.



Dr. C. S. N. Hallberg, Chicago, Secretary of the Section on Materia Medica, Pharmacy and Therapeutics.

12. The detection of "eye-strain" in youth is an important step in preventive medicine, and the arrest of a nervous leak may save many a child from a permanent break-down when an adult.
13. The study of facial expression and head posture is destined to become an important aid in diagnosis.
14. The governing boards of institutions for the feeble-minded, the epileptic, and the insane will sooner or later be compelled to investigate more carefully and earnestly than in the past the eye conditions of their inmates.

11. Intestinal Resection.—Three cases of interest are reported by Isaacs. The first two show how uncertain the diagnosis of

acute appendicitis may be, even if the symptoms are apparently clear. The first case is also of interest on account of the length of the gangrenous gut, twenty-three inches, included in the intestinal strangulation. The operation with the Murphy button was successful, the button passing the ninth day after operation, and the patient was discharged cured in four weeks. In the second case the symptoms were those of an acute attack of appendicitis with local suppuration, but examination disclosed the appendix perfectly normal, though just above it was a tumor consisting of inflamed omental and cecum adhesions

Dr. Victor C. Vaughan, Ann Arbor, Mich., Chairman of the Section on Pathology and Physiology.

matted together with the parietal peritoneum, and a large abscess was found posterior to the cecum and the ascending colon. This arose from the lumbar spine, and instead of working its way down the psoas muscle took the unusual course of working forward through the abdominal cavity, and pointing toward the site of the usual appendiceal abscess. The appendix was ligated and removed, but, as it turned out, this was ineffectual in closing the appendicular orifice, resulting in fecal fistula. The patient was a boy only eight years old, and he successfully withstood five severe laparotomies within five months, coming out none the worse excepting for the presence of scars and a possible future hernia. The third case was a strangulated femoral hernia so far advanced that strangulation of the constricted end and suppuration of the sac had already taken place. The operation was performed with the Murphy button as in the other cases, and with good results notwithstanding the desperate condition of the patient, a widow 56 years of age.

Philadelphia Medical Journal.

April 18.

12 *The Syphilitic Nature of Tabes and General Paralysis. Dr. Leredde.
13 Pulmonary Abscess Producing Dextrocardia: A Case Report. Thomas L. Coley.
14 Methods of Roentgen-Ray Treatment of Malignant Diseases of The Uterus, Rectum and Bladder, with Descriptions of Tubes. Margaret A. Cleaves.
15 *The Surgical Treatment of Tubercular Peritonitis. D. B. Fairchild.
16 *The Operative Treatment of Laryngeal Tuberculosis. Lorenzo B. Lockard.
17 Pernicious Anemia following Thyroid Enlargement. V. S. Merritt.

12. **Tabes and Paresis.**—Leredde holds to the syphilitic nature of these disorders and their curability under specific treatment. He does not believe in pseudo-general paralysis of syphilitic origin definitely distinct from the true disease, but there is a certain clinical type of cerebral syphilis identical with and impossible to differentiate from true general paralysis. This is singularly frequent. He believes that general paralysis in a syphilitic patient is always syphilitic in nature and may be cured if treated correctly before degeneration occurs. He gives details as to treatment, insisting on the importance of a gradual increase of the mercurial dose to avoid any sudden action of the drug.

15.—See abstract in THE JOURNAL of January 17, p. 189.

16. **Laryngeal Tuberculosis.**—Lockard believes in the surgical treatment of these cases; however, carefully selecting them for operation. For the results to be good, the lesions must be localized and accessible, the pulmonary process incipient or quiescent, and there should be general good health without hyperpyrexia, cardiac weakness and involvement of other organs, and a favorable moral and mental temperament. Lastly, and of great importance, a local, not constitutional susceptibility to cocain. The various operations, curetting, use of the knife, scissors, etc., are mentioned. He would also operate to alleviate or render stationary, disease in cases of gradually increasing stenosis, severe laryngeal tuberculosis with slight pulmonary involvement, and when new infiltrations and ulcerations occur after treatment or when local treatment can not be given on

Dr. Joseph McFarland, Philadelphia, Secretary of the Section on Pathology and Physiology.

account of lack of skill or too widespread involvement, but the inefficiency of all other methods should first be demonstrated. He thinks, in any case, we may anticipate some lessening of pain, increased facility in eating and some subsidence of swelling and inflammation. When the pulmonary condition is not in itself fatal, we may also anticipate some resolution in the diseased tissues, a favorable influence on the lungs, a considerable prolongation of life and, rarely, a cure. He thinks that the treatment of a tubercular larynx should usually be the same

as a case of tuberculosis of other parts, that is, complete removal of diseased tissue at the earliest moment provided a conscientious trial of the more conservative methods has first been made.

American Medicine, Philadelphia.

April 18.

18 *A Plea for More Radical Operations in Malignant Disease of the Testicle. Charles Greene Cumston and William A. Rolfe.
19 *Bacteriologic Studies of the Skin and Throat in Cases of Scarlatina. George H. Weaver.
20 *The Treatment of Insomnia. Hubert Richardson.
21 *The Ocular Complications of Variola. Burton K. Chance.
22 Angioneurotic Purpura. Raymond Wallace.
23 *Limitations of the Dimethylamidoazobenzol Test for Free HCl in the Stomach Contents. Wilbur F. Skillman.
24 *Infection as a Factor in Tuberculosis. Woods Hutchinson.

18. **Malignant Disease of the Testicle.**—Cumston and Rolfe plead for a more thorough operation in these cases, performing not merely a castration, but dissecting out the lymph glands in the groin. The article is illustrated.

19. **Scarlatina.**—Eighteen cases of scarlatina have been studied by Weaver to ascertain the bacteria of the skin in this disease. He finds that the bacteria obtained from the cultures of the skin, epidermic scales, and the surface of the tonsil in case of scarlatina are the same as those found in the same localities during health, no one of these is constantly present except the streptococcus in the throat. On account of the numerous cocci growing in such cultures it is impossible to identify them except by complete study. If made by inexperienced persons or those who do not fully appreciate the importance of avoiding the tongue, the cultures are especially apt to contain large diplococci or sarcinæ. The streptococcus is present in the tonsil of scarlatinal patients in enormous numbers in almost every instance.

20. **Insomnia.**—The causes and treatment of insomnia are discussed at length by Richardson, who reviews the effects of various hypnotics and practically condemns them all as being toxic and producing sleep by intoxication. The methods which he would consider better are sleeping in a well-oxygenated room, keeping the bed warm, reduction of mental activity for some hours before going to bed, and the evening meal at least four hours before retiring; the use of the bath immediately before retiring and sometimes the addition of a nitroglycerin or erythrol tetranitrate tablet after the patient has gone to bed. Small doses of digitalis in neurasthenic cases will sometimes be efficient in producing sleep. In acute mania with low mean and maximum blood pressure, heart stimulants are indicated, but in chronic mania, with high mean and maximum pressure, these are useless and opiates are especially contraindicated. There are cases where hypnotics are absolutely necessary, but he thinks it is better to produce the conditions necessary to natural sleep than to give a poison which produces unconsciousness and not sleep, and which must be detrimental to the patient.

21. **Variola.**—Chance has studied the ocular complications of variola in an analysis of over two thousand cases at the Municipal Hospital at Philadelphia. He finds ocular affections common, occurring sometimes in the acute stages and again not until convalescence, or they may be seen for the first time as sequelæ. The skin of the lids is commonly a site of the pustulous eruption and the eye may not be opened for several days. In such cases severe conjunctivitis is present and often leads to corneal ulceration and abscesses may occur on the lids later. The lachrymal passages may become inflamed and destroyed. Inflammation of the conjunctiva itself is usual, but shortly passes away. The intensity is related directly to that of pustular eruption in general. The cornea does not seem to be subject to the specific lesion of variola, though ulceration does occur independently of the general process as a consequence of conjunctival disease. Inflammation may be only a slight superficial haze or may involve the entire membrane. In severe cases rapid destruction of the cornea may take place as early as the eighth day. Sometimes both the eyes are affected. Two cases of parenchymatous keratitis were observed. Old vaccination, though not effective against the smallpox seemed to relieve the corneal complications to a considerable extent. The uveal tract seemed less likely to be affected than the cornea. Iritis was observed in a few cases. In no case was there circumscribed choroidal inflammation or posterior polar cataract. Chance can report no case of glaucoma, retinitis or neuro-retinitis, though other observers have reported such. While kidney disease was common it did not progress far enough to result in any case of albuminuric retinitis. He has not found any cases of hemorrhage into the retinal sheet or optic nerve reported as actually observed.

23. **Dimethylamidoazobenzol Test.**—Skillman finds certain limitations of this test for free HCl in the stomach, which he summarizes as follows:

1. If the test for lactic acid is positive, Gunzburg's or Boas' reagents, or some other method, should be used to determine whether our dimethyl reaction is due to lactic acid or to free HCl.

2. If the stomach is normal both as to size and position and the peristaltic function is unimpaired, then dimethyl will give fairly accurate results.

3. If the size and position of the stomach are not normal (gastrectasis or gastroptosis), or if the peristaltic function is delayed, then Gunzburg's or Boas' tests should be first performed to test positively whether free HCl is causing reaction, or whether it is caused by organic acids, before proceeding to titration with dimethyl.

24. **Tuberculosis.**—Hutchinson gives an interesting résumé of the present conditions of the question of bovine and human tuberculosis, disagreeing with Koch as to the harmlessness of bovine tuberculosis to man, though he admits his general statement as to the transmission of human tuberculosis to cattle. As regards actual infection from individuals, he finds little to support the extreme opinions which have gained ground. The general balance of evidence in regard to the rôle of infection in tuberculosis seems to him to point to the view that while the introduction of infectious material is necessary, the most potent factors in determining the questions of the development of the disease are those of the soil, viz., resisting power, and environment. He believes there is considerable in the *habitus phthisicalis*, that is, special conformation and physiognomy of those most subject to phthisis, and gives special importance to a high chest index, namely, the relation between the anteroposterior and the transverse diameters of the chest. This is high in consumptives, that is, the phthisical patient has a more round than flat chest. It is a persistence of the fetal condition. He believes in guarding against infection by every possible means; meat and milk inspection, tuberculin tests, destruction of sputum, notification of cases, prevention of expectoration in public, but twice as important, in his opinion, are well-aired rooms, good food, short hours of indoor work and an open-air life.

Boston Medical and Surgical Journal.

April 16.

25 *A Case of Interscapulo-Thoracic Amputaton for Sarcoma of the Brachial Plexus. F. B. Lund.
26 *The Diagnosis of Gonorrheal Urethritis. Alfred H. Gould.
27 *Cream for the Home Modification of Milk. Charles W. Townsend.
28 *Variation in the Composition of Human Milk. Philip P. Sharples and Eugene A. Darling.
29 *Trikresol in Para-urethral Abscess. M. L. Heidingsfeld.

25. **Interscapulo-Thoracic Amputation for Sarcoma.**—The case reported by Lund was a patient 40 years of age, of good muscular development, operated on for sarcoma of the brachial plexus following injury. Rupture of the axillary vein had occurred in attempted removal, and it was relieved by suture and subsequent interscapulo-thoracic amputation was performed with good results, and no recurrence after three months. The points of special interest are the close relations in time between the development of the tumor and the injury of the arm. The early paralysis of the median nerve, while the other nerves were not affected except by pressure, pointed to the origin of the tumor in this nerve. Lund summarizes the indications for this operation: 1. In the majority of cases of malignant disease of the humerus, and especially any that involve the tissues about the shoulder joint. 2. In malignant disease in the axilla involving the axillary vein, which can not be ligated without sacrificing the arm. 3. In extensive injuries, where the scapula has been partially or completely torn away, or the skin over the deltoid has been destroyed, so that it is not available for the covering of an ordinary shoulder-

joint amputation. Points in the technic are noted, the importance of ligating the artery before the vein, and of cocainization of the trunks of the brachial plexus before division, which seems to have no effect on the pulse.

26. **Gonorrheal Urethritis.**—Gould insists on the importance of culture tests as well as microscopic tests to positively establish the identity of the disease. He advises the following general routine method: 1. Cleansing the meatus with water and passing the urine into a sterile test tube. This is centrifugalized in two sterile centrifugal tubes, and the overlying fluid poured off. The sediment is used for cultures. If a few gonococci are found in the first tube, the second tube is treated in the same manner. The Gram stain should always be used. In making culture media he found hydrocele fluid most practicable.

27. **Cream for the Home Modification of Milk.**—The conclusions of Townsend's article are given in the following:

1. Centrifugal cream is probably less desirable for infant feeding than gravity cream. As obtained from dealers it is often far from accurate in percentage.
2. Siphonage for obtaining gravity cream is an accurate method, but one requiring considerable skill to perform accurately and safely.
3. Dipping off the top milk is an accurate and safe method if reasonable care is used.
4. The method for obtaining gravity cream by pouring off the top is very accurate and extremely simple. There is no instrument to be bought and kept clean. By this method it is possible to obtain cream of any desired percentage up to 26 per cent.
5. To ensure perfect accuracy, frequent examinations with the Babcock machine are required; but for practical purposes this is not necessary, provided the mixed milk from a well-regulated dairy is obtained.

28. **Human Milk.**—Sharples and Darling have systematically analyzed samples of human milk collected under uniform conditions. The details of their methods are given. They find that the average composition of human milk as shown by 117 analyses is:

Fat	2.91	Ash	0.13
Sugar	7.01	Total solids	11.39
Proteids	1.34	Solids not fat	8.48

Very wide variations from the average occur in some individuals at different times and marked variations in the average composition from different individuals. The average composition of human milk does not vary markedly at different periods of lactation, but during the first lactation it is weaker in fat and proteids and stronger in sugar than in subsequent lactations. These differences may or may not be due to age.

29. **Para-Urethral Abscess.**—Heidingsfeld gives his experience with four cases of para-urethral abscess following gonorrheal infection and treated by injections of trikresol. In all four it effected a complete cure in from seven to fourteen days, and materially shortened an exceedingly obstinate and distressing gonorrhea. He speaks rather strongly in regard to the utility of this preparation in such cases, and thinks it warranted in every accessible case until its efficacy, unfailing or otherwise, is fully established.

Medical News, New York.

April 18.

30 *Intestinal Indigestion (Dystrypsia). John C. Hemmeter.
31 *A Brief Review of Some of the Etiologic Factors in Intestinal Dyspepsia. E. Franklin Smith.
32 *The Rational Treatment of Tetanus: A Report of Successful Treatment by Spinal Subarachnoid Injections of Antitetanic Serum. W. H. Luckett.
33 *Notes on Systemic Infections by the Staphylococcus Aureus. E. Libman.
34 *Itching: Its Occurrence Both as a Concomitant and as a Cure of Disease. Edward B. Bronson.
35 The Roentgen Ray: Its Mechanics, Physics, Physiology and Pathology. Eden V. Delphey.
36 The Congenital Criminal. Robert T. Irvine.

30. **Intestinal Indigestion.**—The different forms of intestinal indigestion are noted by Hemmeter, who commences with a discussion as to the gastric function, showing the importance of psychic incitation to gastric secretion. It is important first of all, in order to have a normal intestinal digestion to see that the mouth and stomach are in good order. He points out the differences between the jejunal and the catarrhal types of the stools; the former is very rich in bile pigments, with slight fecal odor and generally of an acid reaction, bearing evidence of simply being hurried through the intestine, while the catarrhal shows the presence of epithelium and round cells from the mucous membranes which are absent in the jejunum stools, and it is dependent on general enteritis. The dystrypsia due to carbohydrate fermentation which gives rise to jejunal diarrhea is important because it may entail an ultimate enteritis in either adult or infant. It is not an easy matter to decide between a normal and abnormal, quantitative or qualitative, presence of starch in the feces, but if they give a marked primary fermentation according to Adolf Schmidt's test, he excludes starch from the diet. Normally, Lugol's solution should show no blue color in the stools. An abundance of undigested muscle fibers after a weighed test diet is always significant of abnormal intestinal digestion, and if the nuclei in the muscle fibers are very evident it signifies abnormality of the pancreatic secretion. The presence of connective tissue is another significant point indicating gastric indigestion. According to Hemmeter's experience it is impossible to succeed with a radical enforcing of strict diet of any kind, but he advises a "bland diet"; foods that pass the intestinal canal undigested should be avoided. He makes it a rule to prohibit alcohol, tea, coffee and tobacco, but with great exhaustion he allows small quantities of alcohol under the strictest control. The diet can not be regulated until a dietetic experiment is made. The same holds true as regards constipation. We must ascertain whether this is due to atony or spasm. The majority of these patients require exercise after meals; a few may require rest. Great care must be exercised as regards the last meal of the day; a heavy supper will often produce a restless night. Hypnotics should be avoided for insomnia, and any neurasthenia properly combated. He has been able to get along without intestinal antiseptics, and has seen bad results from irritating drugs of this kind. Creosote, even in small doses, generally deranges the stomach. He gives a number of formulas for special symptoms.

31. **The Etiologic Factors of Intestinal Dyspepsia.**—The first of the exciting causes noted by Smith is the pathologic and anatomic alteration of the intestinal walls, nerves, lymphatics and blood vessels. 2. The absence or deficiency of the intestinal digestive secretions, especially of bile and pancreatic juice. 3. Intestinal indigestion due to qualitative or quantitative irregularities of diet. 4. Intestinal dyspepsia due to abnormal bacterial activity. 5. That due to abnormal gastric chemistry. 6. That of nervous origin—neurasthenia intestinalis. 7. Intestinal dyspepsia caused by abnormal substances, or irritation, reaching the intestines from the blood, as in uremia, severe malaria, septicemia, croupous pneumonia, erysipelas, cholera, etc. 8. Intestinal dyspepsia due to the activity of the intestinal parasites (exclusive of bacteria). 9. That due to hyperperistalsis or excessive motility of the bowel, motor, sensory, secretory neuroses, etc. All these are discussed in detail.

32. **Tetanus.**—Three cases are reported by Luckett, two recovering under intraspinal injections of tetanus antitoxin with withdrawal of a certain amount of cerebrospinal fluid. No attempt was made to maintain an equilibrium between the amount of spinal fluid withdrawn and the amount of serum injected, the former ranging from 100 to 140 drops and the latter usually 8 to 12 c.c. of antitoxin. He holds that this fact indicates that the shock or collapse following spinal subarachnoid injection of cocain is not due to any upsetting of equilibrium of pressure, but is due solely to the physiologic action of the cocain. In case of a tetanus infected wound he is not by any means positive that the anatomical seat of the wound does not play an important rôle in the production of the constitutional symptoms of tetanus; if near a large nerve it will be more likely to be followed by constitutional effects. While recognizing the absurdity of trying to draw conclusions from two cases, in the two patients who recovered the reaction after each injection was so prompt and the improvement so positive that he believes spinal subarachnoid injection of tetanus antitoxin, preceded by the withdrawal of the active, concentrated, highly toxic spinal fluid, supplemented by forced nutrition and proper care of wound, is a very promising method of treatment, offering more hope than any other in this dreaded disease.

33. **Staphylococcus Infection.**—Libman has examined 23 cases of osteomyelitis in septic conditions and found in all of them the *Staphylococcus aureus* in the blood during life. In 330 other blood cultures he has never seen a single colony of *Staphylococcus aureus*. Five of these 23 cases recovered. It does not necessarily follow that the greater the number of bacteria in the blood, the less the chance of recovery. The number of bacteria depends in some cases at least on the time when the examination is made, as the great tendency is for the body to rid itself of bacteria.

34. **Itching.**—Bronson reviews the causes of the symptom of itching and its treatment. Scratching is the natural remedy for itching, but may do more harm than good, but the principle of transference or substitution of sensation, used in scratching, is also applied in other remedies. One of the most valuable of them is menthol, which is not an anesthetic, but relieves itching as it relieves pain, by substitution for this sensation, the disturbance of temperature sense. A 2 to 4 per cent. alcoholic solution is most effective. Other remedies act as cutaneous anesthetics, as hot water, camphor, etc., and of the local anesthetics, carbolic acid is the most valuable and has the most lasting effect. To obtain its best effect it should be used strong. Its corrosive action on the skin is its chief objection. It is well to bear in mind the possibility of carbolic poisoning, though if ordinary caution is observed there is not much danger. The danger of injury to the skin from the caustic action is a more imminent one. We can use subsequent applications of alcohol if necessary. Generally he has found a drying oil, linseed more particularly, the best corrigent. The following is the prescription which he recommends:

R.	Liquor potassi	3i	4
	Acid carbolici	3ii	8
	Olei lini q. s. ad	3i	30
	Olei verbenæ	m. ii	12
M.			

There is not much to be said for internal remedies, but where an urticarial element is prominent, there would seem to be an indication for motor depression to overcome the spastic contractions of the skin muscles. Atropin and pilocarpin are sometimes prescribed, but he does not strongly recommend them. In toxic urticaria there is an indication for antiseptic remedies and with the form due to errors of diet or dependent on idiosyncrasy of the individual, a brisk emetic or later a saline purge may be effective. In senile pruritus he speaks particularly of general stimulation of the skin by elimination, faradization, etc., with internally cannabis indica and strychnia. For pruritus hyemalis it is important that digestion and general nutrition should be kept up and alcoholics avoided. Bath pruritus is more difficult to control, and some times the addition of salt to the water makes it less irritating. For pruritus of the anus or genitals the cause should be searched out, all possible sources of reflex irritation looked for as well as any general condition like lithemia, neurasthenia, or diabetes. Among the local remedies he mentions lotions of aluminum acetate, Lassar paste, without salicylic acid, or with 2 or 3 per cent. carbolic acid. Orthoform may do well if inflammation exists and until it is allayed. Cocain is sometimes useful, but not good for prolonged use. The sovereign remedy for pruritus vulvi or ani is carbolic acid. A single application of the prescription above given is sometimes efficient for the whole night, but it should not, however, be applied too lavishly or too often; more than one or two applications in twenty-four hours would be likely to do injury. Hot water is often useful. Other remedies are also mentioned.

Cincinnati Lancet-Clinic.

April 18.

37 The Future of Gynecology and of Obstetrics. Wm. D. Porter.
38 The Care of Obstetric Cases. Julia W. Carpenter.
39 Cephalalgia. Mark D. Stevenson.
40 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review.

April 11.

41 *Fistula of the Cornea. James M. Ball.

41. **Fistula of the Cornea.**—This condition, which is rare in occurrence, is treated by Ball as follows:

The keratome is to be introduced into the anterior chamber as in the first step in the operation for iridectomy. The tip of the instrument is to pass beyond the fistulous area, and the instrument is then to be held *in situ* while a cautery is used to destroy the epithelial lining, the tag of iris tissue which is often present in the fistula, and the bulging bleb of Descemet's membrane. The keratome is to be withdrawn carefully to avoid injury to the lens. Atropin and a compress bandage are to be used in the after-treatment. During the operation the lids should be separated by a speculum and the eyeball should be fixed with forceps. It is necessary that the forceps should be placed several mm. behind the point at which the keratome is to be introduced. If the forceps be placed on the globe at a point opposite the place at which the keratome is to be passed, the globe may be subjected to sufficient pressure to cause a rupture of the weakened area. The operation must be postponed until such time as the anterior chamber shall have reformed.

Bulletin of the Johns Hopkins Hospital, Baltimore.

March-April.

42 Plague in the Orient. William J. Calvert.
43 *Pemphigus Vegetans. L. P. Hamburger and Maurice Rubel.
44 *The Taste Fibers and Their Independence of the N. Trigeminus. Harvey Cushing.
45 On the Use of Clay Modeling in the Study of Osteology. Robert O. Moody.
46 The Treatment of Aural Exostoses. H. O. Reik.

43. **Pemphigus Vegetans.**—Hamburger and Rubel report a case with details, autopsy findings and bacteriologic examination. The condition is a fatal one and was best relieved by continuous immersion under water. Cultures revealed the presence in the mouth of small bacteria in almost pure culture, allied apparently to the pseudo-diphtheria bacillus. After the death of the patient, the *Micrococcus lancolatus* was isolated from the lungs, and a pseudo-diphtheria bacillus from the blood. Blebs showed the staphylococcus. The article is elaborately illustrated.

44. **The Taste Fibers.**—Cushing has analyzed the literature and a number of cases of his own observation to determine whether the taste fibers reach the tongue through the trigeminus or not. Judging from the uniform results of observation, he says it may be said in conclusion:

1. That the perception of taste is unaffected on the posterior portion of the tongue and never permanently or completely lost on its anterior two-thirds after removal of the Gasserian ganglion. 2. That a temporary abolition or lessening of the acuity of taste may be found to exist over the anterior and anesthetic portion of the tongue for some days after the operation. 3. That this temporary loss of function may possibly be occasioned by some interference with chorda transmission brought about by a mechanical or toxic disturbance due to degeneration of the N. lingualis. 4. That a lesion of the trigeminal nerve may be associated with disturbance of taste over the chorda territory without the necessary inference that the nerve is a path for gustatory impulses. 5. That the N. trigeminus in all probability does not convey taste fibers to the brain either from the anterior or posterior portion of the tongue.

Cleveland Medical Journal.

April.

47 *The Occurrence of Cheyne-Stokes' Breathing in Acute Disease, with Report of a Case. H. C. Mabley.
48 On the Value of Obtaining the Urine from Each Kidney Separately, with a Description of the Different Methods Employed. William E. Lower.
49 A Case of Face Presentation—Mentoposterior Position. F. S. Clark.
50 Instructions Issued by the German Government for the Education of the People on Tuberculosis. Translated by John H. Lowman.

47. **Cheyne-Stokes' Breathing.**—Mabley notes this special symptom and gives illustrative cases personally observed and others from the literature. He thinks the condition is not by any means necessarily associated with chronic disease, though the literature gives but little material in regard to its occurrence in acute conditions.

Annals of Surgery, Philadelphia.

April.

51 *Splenopexy for Wandering Spleen. J. Basil Hall.
52 *Urethroplasty. Albert A. Berg.
53 *Carcinomatous Changes in an Area of Chronic Ulceration, or Marjolin's Ulcer. John C. DaCosta.
54 A Case of Dislocation of the Hip in Acute Rheumatism. J. N. Hall.
55 *Instrument to Protect the Brain While Doing Craniotomy with Gigli Saw. Frederick C. Schaefer.
56 *Primary Tuberculosis of the Breast. W. S. Schley.
57 *The Diagnosis of Intestinal Injury Following Abdominal Contusion. Robert G. LeConte.
58 *Hepatic Duct Stones. Raymond C. Turck.
59 *Primary Carcinoma of the Vermiform Appendix, with a Report of Three Cases. Arthur W. Elting.
60 *The Surgical Treatment of Anuria. Arthur D. Bevan.
61 *Results of Decapsulation of the Kidney. Harold A. Johnson.

51. **Splenopexy.**—Hall reports a case successfully operated on. The conditions were good for splenectomy, but noticing that there was a peculiar structure of the spleen which favored its attachment, the notch being specially situated so as to make sure of an anchorage, he adopted the plan of splenopexy with good results. Of course, this would not be advisable in every instance.

52. **Urethroplasty.**—Berg describes the various methods of performing urethroplasty and reports two cases showing the usefulness of Guyon's operation—that is insertion of a catheter and allowing regeneration over it between the two divided ends—which he holds is the most universally applicable method, though not so ideal as the union of the two ends.

53. **Marjolin's Ulcer.**—Two cases of this condition are reported by DaCosta, who discusses the origin of the cancer from chronic ulcer. He does not adopt the parasitic view, though certain things seem to favor it, such as metastases, etc. He cautions in regard to diagnosis, especially in cases where there has been a pre-existing induration, and the possibility of a syphilitic condition is mentioned. When a positive diagnosis is made of cancer of this sort on the extremities, the only course is amputation well above and removal of the anatomically related glands. The *x*-ray may be tried before amputation if the glands are not obviously enlarged.

55.—This article appeared in THE JOURNAL, Jan. 24, p. 246.

56. **Primary Tuberculosis of the Breast.**—Schley reports a case of this condition and discusses its pathology. The condition is evidently not a common one. It may be mistaken for simple cyst, fibro-adenoma, carcinoma, sarcoma, gumma and actinomycosis. It may also be necessary to distinguish the process from chronic interstitial mastitis. The treatment consists in removal.

57. **Intestinal Injury from Contusions.**—Several cases of this condition are reported by Le Conte and the symptoms and diagnosis analyzed. He thinks that a moderately sure diagnosis of injury must be made before operation is undertaken or we will frequently find no internal trauma, and that the teachings of modern writers who urge operation in all cases presenting pain, rigidity or local tenderness are too radical. The presence of shock is not sufficient for diagnosis. We must wait for reaction. No one symptom is pathognomonic, but the most reliable ones are gradually increasing rigidity and facial expression. Next he would place deep and perhaps radiating abdominal pain, respiration which becomes more and more thoracic, vomiting after shock has ceased, distension, increasing pulse-rate, and secondary fall in temperature. The order of these symptoms is unimportant. Any individual who has received an abdominal contusion sufficiently severe to call for service needs the most constant and careful watching for grave symptoms. We should not wait for them to become so pronounced that a positive diagnosis is assured, but there is a safest position midway between operation on every case and waiting for assured diagnosis.

58. **Hepatic Duct Stones.**—Turck emphasizes the importance of a thorough search for calculi in the hepatic duct and their removal if existing. He thinks it is safer to assume that stones may be formed in the bile ducts independently of gall-bladder influences, and unless the case is undoubtedly uncomplicated, or one with a few or a single large stone in the ducts, with no sign of cholangitis and with the bile clear, simple gall-bladder drainage, removal of the mucous membrane and cholecystectomy may all prove insufficient and drainage of the hepatic duct by tube through a direct incision or common duct opening should be instituted.

59. **Primary Carcinoma of the Vermiform Appendix.**—From a careful study of the subject including examination of three cases, Elting draws the following conclusions:

1. Primary carcinoma of the appendix is not of such rare occurrence as has been hitherto supposed. 2. Every appendix removed at operation or autopsy, if it presents any evidence whatever of disease, should be examined most carefully, and sections should be made from several portions of the organ for microscopical study. 3. The relationship of primary carcinoma of the appendix to chronic appendicitis, especially of the obliterative type, seems to be fairly definitely established. 4. Primary carcinoma of the appendix shows a tendency to develop at a comparatively early period of life. 5. Primary carcinoma of the appendix does not show a marked tendency either to extension or to metastasis. 6. The symptoms of primary carcinoma of the appendix are usually the symptoms of appendicitis of the chronic type. 7. The diagnosis of primary carcinoma of the appendix is in the great majority of cases impossible. 8. The treatment of the condition should always be operative.

60. **Anuria.**—Bevan reports a case and discusses the conditions which may be due to obstruction, traumatic or otherwise, from acute nephritis, from tuberculosis from degenerative conditions, from certain poisons, from a peculiar condition known as urethral fever and hysteria. He draws the following conclusion from his study as regards the operation:

1. The clinical importance of recognizing the three forms of anuria—obstructive, reflex and non-obstructive—is to be emphasised. 2. The imperative necessity of surgical interference in the obstructive and reflex forms, and its possible value in the non-obstructive cases. 3. That in the first two varieties, at least, a rapid nephrotomy on the side of pain, tenderness, and muscular rigidity is the operation of choice. If necessary, do not hesitate to make a double nephrotomy. 4. That nitrous-oxid anesthesia is probably to be preferred. 5. That time-consuming operations to relieve permanently the obstruction are to be postponed to a later period, after the patient has recovered from the anuria. 6. Operate early, by the beginning of the third day.

61. **Kidney Decapsulation.**—Johnson has experimented on fifteen dogs, of which 5 died, and gives a summary of his findings. The capsule of the normal kidney consists of two distinct layers, the outer being much the thicker, while the inner is very thin, the direct continuation of the intertubular connective tissue. In the operation of decapsulation the outer layer only is removed, leaving the inner lacerated but adherent to the kidney's surface. At first a thin exudate appears on the free surface of the kidney, which gradually becomes a fibrous investment, resembling the normal capsule in that it strips readily and becomes more and more firm with time. Microscopic examination shows this to be of varying degrees of thickness, and a homogeneous mass of fibrous tissue which will form under adhesions and can be recognized as distinct from them both macroscopically and microscopically. There is sometimes an infiltration with round cells and a proliferation of the intertubular connective tissue of the cortex, without, however, affecting the glomeruli or the general health of the dogs. Lastly and most important is that in no case was there any considerable anastomosis between the renal and perirenal blood channels. Applying these facts to operations on the human subject, he does not find that Edebohl's claim is sustained that the benefits sometimes derived from this operation are due to the establishment of a collateral circulation, but rather that they are due to relief of tension from splitting the capsule of the kidney.

Interstate Medical Journal, St. Louis.

April.

62 *The Diagnosis and Treatment of Hemorrhoids. James P. Tuttle.
63 *The Heart in Neurasthenia. Frank P. Norbury.
64 What the von Langenbeck Operation Accomplishes in Individuals with Cleft Palate. Willard Bartlett.
65 Treatment of Verruca Plana Juvenalis, with Report of Two Cases. M. F. Engman and W. P. Loth.

62. **Hemorrhoids.**—Tuttle's article is somewhat lengthy, describing the various types of hemorrhoids and their treatment. He believes that in the varicose type of internal hemorrhoids there is a field for the injection methods. In purely internal hemorrhoids, which prolapse through a relaxed sphincter, not ulcerated, this method will frequently give us excellent results. The method, however, is tedious and may be painful. He does not use ligation, but has employed an operation of excision, adapted from the methods of various authorities. He does not advise this, however, to the general practitioner, but counsels him to hold to the old, simple efficient plan of clamp and cautery in the operative treatment of piles.

63. **The Heart in Neurasthenia.**—Norbury calls attention to the heart symptoms occurring with neurasthenia, disturbance of the rhythm, usually increased, acceleration, the Rumpf symptom, palpitation after eating and the general symptoms of heart weakness. The condition does not usually improve until the neurasthenia is well under way of convalescence. He believes in diversion as a part of the rest cure in these cases. The details are largely in regulating sleep, promoting digestion, the use of tonics, care as to the bowels and a careful consideration of nutrition in general.

Albany Medical Annals.

April.

66 *The Unusual Symptoms of the Weakened Foot. Arthur W. Elting.
67 *Ocean Traveling as a Therapeutic Measure. John Hall.
68 *Albany Hospital: First Report of Pavilion F, Department for Mental Diseases, for the Year Ending Feb. 28, 1903. J. M. Mosher.
69 Albany Hospital Report of the Pathologist on the Work Done from March 1, 1902, to March 1, 1903. George Blumer.
70 A Late Laparotomy for Gunshot Wounds of the Intestines; Eleven Perforations; Recovery. James H. Mitchell.

66. **The Weakened Foot.**—Elting discusses the condition and its treatment and describes cases where severe cramps of the calves, pain in the knee and hip joints were experienced as also the symptom of meralgia parasthetica, which has also been attributed to this condition by Pal.

67. **Ocean Traveling.**—The advantages of ocean traveling for invalids are discussed by Hall, who also points out the drawbacks and insists on good judgment in the careful selection of cases to be benefited in this way. The same problems arise as regards land traveling. He thinks it is best not to be too ready to prescribe traveling for a patient because he has the means.

68. **Mental Wards in General Hospitals.**—The first report of Pavilion F. of the Albany Hospital is given by Mosher, who shows a total of 174 cases treated, with 57 recoveries and 53 improved. He finds many advantages in the plan of having a mental ward attached to a general hospital, though it is unsuited for a certain proportion of cases. The principle, he says, may be stated that any patient whose case may be regarded as curable by the means at hand should share the advantages of this style of ward. He speaks highly of the benefit of putting the male wards in charge of female trained nurses.

Illinois Medical Journal, Springfield.

April.

71 *Hemorrhoids: Their Pathology; Indications for and Technic of Operative Treatment. J. Rawson Pennington.
72 *Acute Gastro-enteric Infection of Infants. Margaret T. Shutt.
73 *Six Years in a Dermatologic Clinic. E. A. Fischkin.
74 A Case of Grippe Infection Resembling Puerperal Fever. Joseph Brayshaw.
75 An Unusual Case of Typhoid Fever. J. W. Kelly.
76 Consistency in Medical Practice. J. N. Nelms.
77 The General Practitioner and His Surgery. W. C. Bowers.

71. **Hemorrhoids.**—Pennington describes his operation. It consists in cutting out a section of the mucous membrane covering the pile and removing angiomatous tissue, treating each quadrant of the anus in regular order. A stream of hot sterilized salt solution (115 to 125 F.) flows over the parts continuously during the operation. Spurting vessels, if any, are caught with forceps and thoroughly twisted and, if necessary, ligated. All external tumors and tabs of skin are cut off, care being taken not to make any incision in the muco-cutaneous junction. The field is then dusted with some antiseptic powder and dressed in an extended posture by means of a rubber-covered tampon introduced through a bi-valve speculum, which protrudes about 1.5 inches beyond the anal orifice. Gauze is carefully wrapped around the protruding portion and the whole confined with a T-bandage. The patient is placed in bed and given a hypodermic of morphin, if not contraindicated, and at the end of forty-eight hours is given a cathartic and the tampon removed. From this time on until convalescence is well established, the parts should be washed or irrigated daily with an antiseptic solution, dusted with some antiseptic powder, or sterilized vaselin applied. The bowel should be kept soft for two or three weeks, and wet cotton or cottonoid used as a detergent. He finds this one of the best and most reliable operative methods.

72.—This article is practically the same as that published in THE JOURNAL, XXXIX, p. 244.

73.—This article appeared in THE JOURNAL, Aug. 23, 1902.

Texas Medical Journal, Austin.

April.

78 *Neurasthenia in Relation to the Abdominal Diseases of Women. Henry E. Leake.
79 *A Study of Nature's Method for the Cure of Asiatic Cholera. W. B. McLaughlin.

78. **Neurasthenia in Women.**—Leake objects to the reflex theories of neurasthenia, holding that they have been largely overdone. Men's minds have been unduly strained in this direction. The nervous and physical weaknesses so often accompanying abdominal disease in women is not true neurasthenia or strictly pelvic reflexes. He mentions especially, as one of the most intractable symptoms in neurasthenic women, mucomembranous colitis, which is so common that he invariably assumes it to be present in some degree. His experience with it has been large, but not always satisfactory. He protests against the prevailing indiscriminate operations in abdominal conditions.

79. **Asiatic Cholera.**—McLaughlin considers the cholera germ especially sensitive to heat, and believes that Nature attempts to rid the organism of it by vomiting and purgation. If she can not accomplish this by these alone she raises the bodily temperature to a point that interferes with or inhibits its growth. These processes, however, are a severe tax on the vitality, and the febrile process once started may refuse to be controlled, and the patient dies of hyperpyrexia. In McLaughlin's opinion, heat in cholera is an analogue of Behring's antitoxin in diphtheria. Thus he reasons that by causing an early rise of temperature in cholera patients we also lower the mortality. He reports the results of the use of normal salt solution at 112, injecting above the sigmoid flexure in five cases. The first case was moribund at the time and died, the second died within ten hours of hyperpyrexia. After this the temperature of the injection was reduced from 112 to 110 and an ice bag applied to the patient's head during its administration. The three remaining cases made good recoveries, entering the stage of reaction in each case within an hour of the administration of the injection. Illness compelled him to leave the Philippines at this time, and he has had no opportunity to give the method a further trial.

Medical Age, Detroit, Mich.

April 10.

80 Reflex Neuroses in Women. Edward B. Ward.
81 Tumors of the Bladder. Robert Grossmann.
82 Antitoxin in the Treatment of Diphtheria. W. Thornton Parker.

Medical Fortnightly, St. Louis.

April 10.

83 The Use of Mercury in Syphilis. David W. Reid.
84 Psoriasis and Its Treatment. Charles J. S. Digges.
85 Diseases of the Lungs and Pleura (Pulmonary Emphysema). Albert Abrams.

Virginia Medical Semi-Monthly, Richmond.

April 10.

86 Conception in Species, Pregnancy, Sexuality, Etc. Jesse Ewell.
87 Disease of the Antrum of Highmore, and Its Treatment. J. Stiff.
88 Chloroform as a Surgical Anesthetic and Its Administration. Manfred Call.
89 Gunshot Wounds of the Stomach, with Report of a Case. F. Lawford.

Medical Herald, St. Joseph, Mo.

April.

90 Apoplexy: Remarks for the General Practitioner. Hugh T. Patrick.
91 The Brain: Its Relation to Mind and Soul. T. E. Potter.
92 The Diagnosis of Gallstones. A. L. Wright.
93 A Plea for Prostitution. Albert S. Ashmead.
94 Fracture of the Cranium. Thomas M. Paul.

Occidental Medical Times, San Francisco.

April.

95 Address, San Joaquin Valley Medical Society. J. L. Carson.
96 The Municipal Control of Milk Supply as an Important Sanitary Measure. G. H. Aiken.
97 The Subarachnoid Injection of Cocain. A. J. Pedlar.
98 Iritis: Its Symptoms and Treatment. D. H. Trowbridge.
99 End Result Four Years After a Pus Joint at the Knee. Harry M. Sherman.
100 Is Surgical Treatment to Be the Routine Treatment in Basedow's Disease? W. Winterberg.
101 Pancreatic Calculus. L. W. Allen.
102 Report of a Case of Tuberculosis of the Cornea, Iris and Ciliary Body. A. Barkan.

Chicago Medical Recorder.

April 15.

103 *The Diagnosis of Pneumonia. Arthur R. Edwards.
104 *The Treatment of Pneumonia. James B. Herrick.
105 The Pulmonary Aspects and Complications of Influenza. Frank S. Johnson.
106 The Treatment of Influenza. Robert H. Babcock.
107 Abdominal and Vaginal Cesarean Section as Means of Accomplishing Accouchement Forcé. J. Clarence Webster.

108 *Pneumococcus Septicemia. Joseph L. Miller.
109 Report of a Case of Stammering and Methods of Treatment. James M. Brown.
110 Uremia. A. Gaebler.

103.—See abstract in THE JOURNAL of April 11, p. 1017.

104.—Ibid., p. 1018.

108.—Ibid., p. 1017.

Denver Medical Times.

April.

111 Report of Cases of Fracture in the Shaft of the Femur. I. B. Perkins.
112 X-Ray Report of Above Cases. S. B. Childs.
113 Address, Denver and Arapahoe County Medical Society. Leonard Freeman.
114 The Preparation of Surgeons, Nurses and Patients for Surgical Operations, and Remarks Regarding Trained Nurses. Harlan Trask.
115 A Successful Treatment of Rheumatism. H. H. Fletcher.

Physician and Surgeon, Detroit and Ann Arbor, Mich.

January.

116 The Study of Older Medical Writings. James B. Herrick.
117 Excision of the Knee for Chronic Rheumatism. Theodore A. McGraw.
118 The Surgical Treatment of Procidentia Uteri. Reuben Peterson.
119 Surgery in Hydrocephalus. Daniel LaFerte.

Journal of Medicine and Science, Portland, Me.

April.

120 Puerperal Insanity. J. L. Pepper.
121 Report of Cases Operated upon at the Maine Eye and Ear Infirmary, in January, 1903. E. E. Brown.
122 Early Sign of Tuberculosis. T. F. Chmelicek-Luban.

Washington Medical Annals.

March.

123 Intussusception—Report of a Case Reduced by Operation. George T. Vaughan.
124 Case of Hysterectomy for Fibroids. D. Percy Hickling.
125 Case of Cancer of the Male Breast; Excision. Edward A. Balloch.
126 Cases of Myomectomy and Hysteromyomectomy During Pregnancy. W. Sinclair Brown.
127 Case of Fibromata of the Scrotum; Excision. Edward A. Balloch.
128 Case of Cancer of the Cecum; Excision. Edward A. Balloch.
129 Perforating Ulcer of Foot; Amputation of Leg. R. F. Sillers.
130 A New Sphygmomanometer. J. B. Nichols.
131 Pathological Conditions in the Temporal Bone and Sequelæ. C. R. Dufour.
132 Splenic Infections with Reports of Cases Requiring (1) Splenotomy and (2) Splenectomy. A. L. Stavely.
133 Operation for Cataract with Report of 65 Cases. E. Oliver Belt.

Oklahoma Medical News-Journal, Oklahoma City.

April.

134 Non-Recurrence of Sarcoma Ten Years After Amputation of the Lower Trochanter. John A. Wyeth.
135 The Treatment of Itching. Edward B. Bronson.
136 Tonsilitis in Children. J. A. Reck.

Iowa Medical Journal, Des Moines.

April 10.

137 Death Returns in Iowa's Cities and the Profession. F. I. Herriott.
138 The Roentgen Ray in Diagnosis and Therapy. J. Rudis-Jicinsky.
139 A Case of Septic Meningitis Treated with Intravenous Injection of Formalin. Wm. H. Corrigan.
140 Report of a Case of Puerperal Sepsis Treated with Antistreptococcic Serum. W. T. Schwabland.
141 Radical Operation for the Cure of Varicose Veins. J. A. Bodine.

Indiana Medical Journal, Indianapolis.

April.

142 Concerning Medical Societies and Papers. Robert Hessler.
143 Preventive Medicine in Regard to Heredity. E. J. Kempf.
144 Herpes Gangrenosus; Symmetrical Gangrene; Report of a Case. W. F. Hughes.

Kansas City Medical Index-Lancet.

April.

145 Myositis of the Sterno-cleido-mastoid Muscle. J. F. Welch.
146 Acute Appendicitis and Its Treatment. (Concluded.) John B. Deaver.
147 Some Remarks on the Complications of Pertussis. Clay S. Merriman.
148 Tetanus—Report of Case. C. C. Conover.
149 Report of a Case of Tuberculosis. J. D. Griffith.
150 Symptoms and Treatment of Calculus Anuria. E. L. Keys, Jr.

Proceedings of the Philadelphia County Medical Society.

March 31.

151 A Case of Defective Speech, Due to a Form of Spinal Cord Disease Resembling Disseminated Sclerosis. G. Hudson Makuen.
152 The Use of the Electrothermic Angiotribe in Lieu of the Employment of Ligatures in the Open Operation for the Relief of Varicocele. Orville Horwitz.

SYMPOSIUM ON ANESTHESIA.

153 The Choice of an Anesthetic. Gwilym G. Davis.
154 The Preparation of Patients for Anesthesia. John G. Clark.
155 Treatment of Complications Arising During Anesthesia. G. W. Spencer.
156 The Methods of Administration of Anesthetics. Edward Martin.

Dominion Medical Monthly, Toronto.

March.

157 Case of Pyopneumothorax with Hemiplegia. R. J. Dwyer.
158 Report of a Case of Hemothorax—Probably Due to Secondary Carcinosis of the Lungs. T. B. Richardson.
159 A Case of Hydrothorax. Fred. Parker.
160 A Case of Hemothorax. W. H. Lowry.
161 Cases in Practice (Appendicitis, Fracture of the Pelvis). Frank Hall.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

April 11.

1 *The Diagnosis of Pregnancy. W. S. A. Griffith.
2 *On Recurrent Abortion, with Special Reference to that Form and Often Associated with Some History of Tuberculosis. Due to Deficient Vitality of the Mother, or Both Parents. John W. Taylor.
3 *Eclampsia of Pregnancy, with Notes on the Use of Bossi's Dilator. T. Arthur Helme.
4 Case of Dystocia Due to Uterine Myoma: Cesarean Section. Gilbert Kempe.
5 Pregnancy Complicated by Suppurative Hydatid Cyst of the Liver. Richard Jones.
6 Puerperal Hyperpyrexia of Malarial Origin. Percy B. Spurgin.
7 The Radical Cure of Inguinal Hernia in Early Infancy. B. H. Nicholson.
8 A Note on Some Radiographs Illustrating Congenital Dislocation of the Hip. David Morgan.
9 Clinical Lecture on the Importance of Early Removal of Doubtful Tumors of the Breast. J. Crawford Renton.
10 Case of Infantile Scurvy. Hugh S. Beadles.
11 The Physiological Laboratory of McGill University, Montreal. W. S. Morrow.

1. Diagnosis of Pregnancy.—Griffith calls attention to what he considers the leading points in the diagnosis, which are, first, amenorrhea, which is sudden and not gradual in appearance, development of the breasts and their marked activity, enlargement of the uterus reaching above the pubis, allowing one-half inch for each completed month of pregnancy. The fetal heartbeat, of course, is conclusive, but it must be sought for according to the position of the fetus.

2. Recurrent Abortion.—What Taylor calls recurrent abortion includes only those cases where from the beginning or some definite epoch the patient has aborted with every succeeding pregnancy, and in his own usage here, with one exception, he has restricted it to cases of initial or primary recurrent abortion, that is, the patients have never had a living child. Syphilis is undoubtedly the principal cause, but there are other rare ones, such as those due to intraperitoneal adhesions, especially associated with chronic appendicitis. Most intraperitoneal adhesions involving the uterus either stretch or give way or are put up with by the growing organ, but some will not allow of this, and especially those graver ones which fix the cecum and appendix to the right appendages and uterus. There comes a time when the uterus can not enlarge further without starting fresh and sometimes fatal mischief, and then the uterus either empties itself or peritonitis occurs, or both abortion and peritonitis may occur simultaneously. Another occasional cause of recurrent abortion is deep cervical laceration, and, of course, the criminal cases must be remembered. He especially speaks here of a class of cases of nearly equal importance to those belonging to syphilis where the distinguishing features are the indications of a low vitality on the part of the mother or father, or both parents, a "strumous" family history, and what he may call the remarkable result of an essentially "anti-strumous" treatment when carried on for a long period of time or throughout the whole of the pregnancy. He tabulates twelve cases of this class, in the majority of which there is a fairly clear history of "strumous" disease on one or both sides. He treated these cases with compound syrup of phosphates, 1 dram, three times a day, and increasing doses of cod liver oil, 1 dram to one-half ounce, during the whole time, also the use of viburnum, and succeeded in several of his cases in carrying a child to term. In conclusion he

mentions syphilitic abortions and their difference from the type just mentioned. In the syphilitic class the tendency is an upward one, each succeeding abortion is at a later period of pregnancy and finally the child is carried to term. A dead child is usually born, but finally a living one may be expected. Secondly, the clinical history of the miscarriages themselves is different. There is almost always some difficulty connected with them, retention of products, sepsis, etc. There is also a difference in the general character of the abortion, a thicker, larger and fleshier placenta, etc. In cases where he has succeeded in carrying the child to term in the "strumous" type the children have been healthy, and he is inclined to attach a different importance to defective vitality of the mother in these cases. Everything that tends to improve her health and that of the child, including the persistent administration of lime salts and easily digested fats, is of the utmost importance.

3. **Puerperal Eclampsia.**—Helme discusses the theories of eclampsia and its treatment. He has lately employed for emptying the uterus Bossi's dilator, which, he thinks, is a powerful instrument and, if used with care, is safe and effective. He asks the advisability of ending pregnancy when convulsions occur and if the existence of pregnancy is not a vital factor in the production of eclampsia and its cessation an important feature of treatment. Another question is in regard to the wisdom of large doses of morphin hypodermically. The present day practice seems to be to administer morphin in nephritis where there is not too much destruction of renal epithelium, as in the acute forms, but to withhold it where degeneration has advanced. Does not the same apply to eclampsia?

The Lancet, London.

April 11.

12 *Infective Endocarditis Mainly in Its Clinical Aspects. T. R. Glynn.
13 *A Fragmentary Contribution to the Operative Treatment of Chronic Suppuration within the Temporal Bone. Charles A. Ballance.
14 Nerve Suture and Nerve Regeneration. (To be Continued.) Paul B. Henriksen.
15 *Some Dangers of Hypnotics. Nestor Tirard.
16 *The Surgical Treatment of Puerperal Pyemia. Ernst Michels.
17 An Example of Direct Infection in Typhoid Fever. P. Horton-Smith.
18 A Case of Congenital Parosteal Sarcoma in an Infant Arising in Connection with the Acromion Process of the Left Scapula; Removal; Recovery. Henry J. Curtis.
19 A Case of Goiter in an Abnormal Thyroid Gland. Harold S. Barwell.

12. **Infective Endocarditis.**—Glynn divides infective endocarditis, according to the facts thus far ascertained, into two principal classes: 1. Rheumatic, due to the specific organisms of rheumatism, and 2, septic, due to pyococci. In the former, according to Litten, the temperature may be high or low, the spleen enlarged, the urine gives the diazo reaction and petechial and retinal hemorrhages are common, but suppurative infarcts never occur. The lesions localize themselves and tend to develop into fibrous tissue, the infective character being gradually lost. The endocarditis, though infective in origin, is not in itself infective. In malignant endocarditis, on the other hand, the lesions preserve their infective character and tend to diffuse themselves and are not associated with the development of plastic tissue, but, rather, with necrosis. He discusses the propriety of the nomenclature, holding that "malignant" would be better than "infective" for the latter class. The etiology is discussed, and in the majority he finds general debility a precursor and chlorosis and anemia often attend it. Sometimes it is difficult to decide whether they are the cause or complications. It is found that Bright's disease may predispose to infective endocarditis, and Osler has collected numerous cases preceded by pneumonia. In his own cases there was a rheumatic history in 53 per cent. of males and 71 per cent. of females. There was postmortem evidence of chronic disease of the heart in 83 per cent. of his patients, including 8.4 per cent. where the lesion was congenital. Orth goes so far as to say that infective endocarditis does not develop on sound valves.

13. **Mastoid Suppuration.**—Ballance discusses the treatment and advocates radical measures. The ideal plan would involve in one operation all the following details: 1. Complete removal of the disease; 2, fastening of flap from the membranous meatus without causing deformity of the concha; 3, the epithelial grafting of the inner and outer surfaces of the operation cavity; and 4, the complete suture of the mastoid wound—the subsequent after-treatment being carried out by dry gauze tamponing through the meatus. All this, however, is rather impracticable, and an attempt to do too much is to be deprecated. Each step should be done thoroughly before proceeding to another. The plan of treatment which he practices is carried out in three stages; in the first stage of the operation he uses the gouge and burr for the bone operation. In dealing with the membranous meatus the flap is fashioned out of the meatus alone. The cartilage is removed from the flap, the flap is sutured to the raw surface of the mastoid flap with gossamer silkworm gut, which can be removed at the second operation. He finds when the burr is used the patients are less prone to sickness than when the gouge and chisel alone are employed. One week after the first operation the epithelial grafting operation is performed. A few days later, the earlier the better, removal of the dead portion of the graft is done and dry gauze tamponing through the meatus kept up until the gauze comes away unstained. He finds in from five to six weeks from the first operation in the majority of cases the cavity is soundly healed.

15. **Hypnotics.**—Tirard calls attention to the use of various hypnotics, even the mildest having their bad effects. His conviction is that, in the employment and selection of hypnotics, sleeplessness is the least important factor to be considered. The cause must be ascertained and the possibility of idiosyncrasy. The coexistence of other diseases must influence the selection of hypnotics. The risks of repeating moderate doses must be borne in mind. Generally the dose has to be gradually increased, but with some drugs like sulphonal, trional and tetronal, the danger appears to lie in the total quantity taken, though each dose may have been small. The greatest danger, however, is, when patients are given prescriptions for hypnotics, in the risk of setting up a drug habit. In this they are analogous to alcohol. He is in favor of any step that would tend to prevent their administration except under medical advice or under the physician's immediate directions. He would allow them to be dispensed only by a specially dated prescription, which would be retained by the druggist or returned to the prescriber, or would prohibit their sale to the public altogether.

16. **Puerperal Pyemia.**—Michels reports a case in which there was a postpartum fever, while the local condition of the pelvic organs was improved. There was a fulness indicating trouble in the left inguinal region, first attributed to fecal accumulation, but it remained unaltered in spite of thorough evacuation of the bowels. It increased and became slightly tender and the possibility of thrombosis of the ovarian veins was suggested. Later the patient had rigors and high temperature. Operation was performed, revealing a considerably thickened and dilated ovarian vein, which was ligated in two places, and the vein was then slit open and a fetid mass of softened thrombus was removed from its interior and small accumulations of pus evacuated. The effect was immediate. The patient rapidly improved and had an uninterrupted recovery. He says while one case is of very little value, it is suggestive and worthy of reporting in this instance.

The Practitioner, London.

April.

20 The Light-Treatment in Lupus and Other Diseases of the Skin. Malcolm Morris and S. Ernest Dore.
21 Undulant Fever. F. J. A. Dalton.
22 Adenoids: From the Practitioner's Point of View. P. L. Daniel.
23 The Differential Diagnosis Between Croupous and Catarrhal Pneumonia in Infants. S. Vere Pearson.
24 A Case of Acute Pancreatitis. Whewell Hogarth and B. G. A. Moynihan.
25 A Case of Severe Pneumococcic Infection (Acute Glossitis, Arthritis, Double Pneumonia and Double Empyema). Nathan Raw.
26 A Case with Comments (Primary Sarcoma of the Appendix). Peter Paterson.
27 A Review of Recent Work in the Field of Gynecology. John Phillips.
28 Some Recent Surgery of the Nervous System. Donald J. Armour.

29 Public Health. The Infectivity of the Later Stages of Scarlet Fever and Hospital Isolation. Louis C. Parkes.

Australasian Medical Gazette, Sydney.

March 20.

30 Ptomaine Poisoning. B. Burnett Ham.
31 Notes on the Clinical Aspects and Modern Treatment of Pulmonary Tuberculosis. A. Stewart.
32 The Blood in Pneumonia. Sydney Jamieson.
33 Puerperal Sepsis in Country Practice. C. H. Souter.
34 Surgical Gleanings. C. H. W. Hardy.

Revue de Chirurgie, Paris.

36 (XXIII, 3.) *Amputations ostéoplastiques fémoro-rotuliennes. J. A. Bussière.
37 Sur un cas d'onychogryphosis. M. Alexandre.
38 *De l'action combinée des opérations autoplastiques et des appareils prothétiques. Pour les restaurations de la face. Vallas and C. Martin. (Lyons).
39 Déformations congénitales des 4 membres. Lésions symétriques des mains et des pieds (of hands and feet). N. Magnanini.
40 Traitement chirurgical des salpingites. Etude historique et clinique. Acquaviva and Roux de Brignoles. (Commenced in No. 1.)

36. Femoro-Patellar Osteoplastic Amputation.—Bussière has modified somewhat Gritti's original technic to avoid retraction of the muscles and fixation of the patella in a bad position. He preserves the tendons and the tendon processes and also the tendons of the thigh inserted on the tibia. He also sutures the patellar ligament to the tendons or muscles of the posterior region of the thigh with a U suture. The tendon processes and remaining portions of the fibrous or aponeurosis tissues are sutured to fill up the spaces left in cutting the stump. Silver wire is also used to ensure the fixation of the patella to the femur, by two lateral sutures. By this method of amputating the stump is strong and movable. One of his patients, operated on in 1899, can be hit a violent blow on the end of the stump without experiencing the slightest pain. The stump does not become emaciated, and there is no retraction of muscles or tendons. He illustrates the various steps of the intervention and the aspect of the stump.

38. Combination of Autoplastic Operations and Prothesis for the Face.—In the case described the conditions resulting from having part of the jaws and tongue shot away at close contact two years before were remedied, 1, by resection of the deformed stump of the lower jaw and appropriate prothesis, and 2, by correction of the functional troubles resulting from the adhesion of the stump of the tongue to the roof of the mouth. This was finally accomplished by progressive stretching of the cicatrix by heavy apparatus. 3. By correction of the prognathism of the upper jaw, accomplished by retropulsion of the median fragment after liberal unilateral osteotomy. A slanting strip of bone, 15 millimeters wide, comprising the two premolars, was resected. This liberated the median fragment and rendered retropulsion possible, a new procedure in such cases. The results of the three-fold intervention have been very satisfactory.

Revue de Medecine, Paris.

41 (XXIII, 1.) Kystes multiloculaires congénitaux des reins (of kidneys). E. Bolnet and A. Raybaud.
42 *Le pancreas dans les cirrhoses veineuses du foie (of liver). Klippel and Lefas.
43 Sur le diagnose et la pathogenèse des myelites aigues. E. Mouratoff (Moscow).
44 Maladies associées. Fièvre typhoide et méningite tuberculeuse. Chavigny.
45 Cas de cancer primitif "juxta-hépatique" des canaux billaires. P. Planteau and A. Cochez.
46 (No. 2.) *Les nerfs articulomoteurs des membres. J. Grasset.
47 Sur des rêves (dreams) précurseurs de la migraine ophthalmique. Ch. Féré.
48 *Quelques faits d'abcès juxta-laryngés. Deguy.
49 (No. 3.) *Du dédoublement (splitting) du second bruit du coeur (of heart) à précession aortique. P. Cuffer and R. Bonneau.
50 *Etude clinique sur une antitoxine tuberculeuse. Resultats therapeutiques dans les tuberculoses externes. Guerder.
51 Les exutoires (issues) tuberculeux du poumon (lung). C. Sabaurin.
52 *Epilepsie cardiaque et phénomène de rappel (recalling). L. Rueff.

42. Pancreas in Cirrhosis of Liver.—Klippel is convinced that cirrhosis in the liver is merely one manifestation of an affection which in fact primarily involves, at the same time as the liver, the gastrointestinal glands, the spleen and the pancreas. In some of the eight cases that came to autopsy he found the pancreas even more profoundly affected than the liver, while in others both organs seemed to participate in equal degree in the morbid process.

46. Articulomotor Nerves of the Limbs.—Grasset reviews the three-fold action of these nerves on the muscles, contracting, stretching and holding them, and argues that they should be designated differently from the titles now in vogue. Instead of naming them by their topographic arrangement at the periphery they should be grouped into functional units with their cortical centers. We should not call them spinal and cranial nerves as all are cranial. The brain, the cerebellum and the spinal cord should not be studied separately, but, instead, we should speak of and study the ten great nervous apparatus of the body: 1, the nerve apparatus of thought; 2, the general sensory-motor nerve apparatus; 3, the nerve apparatus of orientation and equilibrium; 4, of language; 5 to 8, of the special senses; 9, of circulation, secretion and nutrition, and 10, of digestion and respiration.

48. Juxtalaryngeal Abscesses.—The larynx, like the epigastric region, the utero-ovarian and the perineoscrotal, is an important reflex-generating zone. Exploration and attempts to operate are liable to induce fatal syncope, especially in case of a juxtalaryngeal abscess. It may run a latent course, with no signs of tumefaction, redness or fluctuation. Dyspnea and stridor are no positive evidence of pus, as they may be due to the underlying laryngitis. If syncope occurs when the abscess is being explored or incised, no time should be lost, but tracheotomy should be done at once and artificial respiration commenced, as otherwise the reflex inhibitory action on the heart and respiration centers may prove rapidly fatal. Seven cases are reported.

49. Splitting of the Second Sound of the Heart.—Cuffer calls attention to the importance of the constant or transient breaking up into two sounds of the second heart sound, corresponding to the hypertension of the systemic circulation. He regards it as an early sign of the stage of infectious diseases just preceding the establishment of lesions.

50. "Antitoxin" Treatment of Tuberculosis.—Guerder reasons that beside the products of bacterial origin, which successfully induce immunity when subjects are vaccinated with them, there must be other substances, likewise derived from organic living cells, possessed of the same or similar properties. They probably will not prove so powerful as those of direct bacterial origin, but still sufficiently so to answer the purpose. He has been seeking for such a substance, and believes that he has found it in cod liver oil. This is the product of the living cells of the cod's liver, and he has established that when injected into the heart of an external tuberculous lesion it annuls the inhibiting effect previously exerted by the tubercle bacilli on phagocytosis. The general beneficial effect of these local injections of the active principles elaborated by the cod liver cells is most remarkable, he states. It is partially direct but mostly indirect and consecutive to its local action. Subcutaneous injection of cod liver oil in and around a fresh tuberculous lesion may induce it to heal without leaving a trace. In tuberculous affections of the joints it renders immobilization unnecessary, and it has cured many desperate cases in which the patient was in advanced cachexia. He reports 60 cases in which he has applied this "antitoxin" treatment, as he calls it. One patient succumbed to the results of amputation, another to diabetic gangrene, and one to albuminuria, a total of 4 deaths. As 18 are still under treatment, he can make a definite report of only 42 cases. Omitting the 2 deaths from complications, his record is now 40 cured in 42 cases. The affection was a non-suppurating osteitis in 8, coxalgia in 7, enlarged ganglia in 2, and anal or cutaneous tuberculosis in 2 each. Of the suppurating lesions there were 10 of osteitis and osteoarthritis, 4 of coxalgia and 5 of ganglionary lesions. He injected 1 or 2 gm. every fourth or fifth day in the immediate vicinity of the lesion or into the fistula. The fistulas are hardest to cure, and he has found it necessary sometimes to fill them with the oil every day, injecting it into the vicinity about once a week. In a suppurating lesion it usually induces the formation of an abscess which requires evacuation, after

which the healing proceeds rapidly. The mode of action of the injections is singularly like that of a natural, spontaneous healing process as observed in the healthy cells immediately surrounding the lesion.

52. **Phenomenon of Recall.**—Rueff remarks that a lesion of the nerve centers hitherto compensated or latent, with or without previous manifestations, may suddenly become manifest on the occasion of some disturbance in the local cellular nutrition. The manifestations that follow may be a minute reproduction of some previous clinical syndrome, or they may assume a form showing that they are merely the external realization of some idea or psychic image evolved during the first manifestation of the lesion, retained in the brain during the interim and, when realized, usually becoming the starting point for a new series of morbid phenomena. The communication issues from Bernheim's clinic at Nancy.

Berliner Klinische Wochenschrift.

53 (No. 9.) Die klin.-pathol. Bedeutung (importance) der Autolyse. F. Umber.
54 Ueber die Scopolamin-Morphium-Narkose. L. Wild (König's clinic).
55 Welche Rolle spielt der Sternalwinkel bei der Athmung (role of sternal angle in respiration)? D. Rothschild.
56 *Ueber einige Ursachen von Husten und Schnupfen (certain causes of coughs and coryza). G. Rosenfeld.
57 Gedanken (thoughts on) Neuron-Frage (question). H. Hamel. (Commenced in No. 8.)
58 (No. 10.) Kniegelenktuberculose (of knee). Abwartende Behandlung oder (expectant treatment or) Operation? König.
59 *Immunität und Narkose. J. J. Snel.
60 *Zur Behauptung von der Quecksilber-Etiologie der Tabes. Ein statistischer Beitrag. P. Cohn.
61 Zur Frage der traumatischen Albuminurie. F. Engel (Cairo).
62 Ueber einen auf Herz- (heart) Bigeminie beruhenden Fall von doppeltem Herzstoss (double apex beat). K. Doll.
63 (No. 11.) *Tuberculosebekämpfung (campaign against tuberculosis). E. v. Behring.
64 Schwieriger Kropf- (goiter) Operation unter localer Anesthesie. Riedel (Jena).
65 *Ueber Carcinom und Diabetes. I. Boas.
66 Results of Training Deaf Mutes in Hearing Exercises. F. Treitel.—Ueber die Ergebnisse der Untersuchungen in der Taubstummen Anstalt zu Weissensee, etc.
67 Ueber ein Sklerom-Herd (focus) in Ost-Preussen. Gerber.
68 Zur Frage der traumatischen Albuminurie. H. Senator.

56. **Certain Causes of Coughs and Coryza.**—Instead of ascribing to "nervousness" certain coughs and colds of obscure origin, Rosenfeld thinks we could determine and remove the cause by seeking for it. In some cases he describes the conditions always coincided with the blossoming of plane trees, and in another with the care of a parrot. He gives a view of the feather dust from the parrot, under the microscope, which well shows its irritating character.

59. **Immunity and Narcosis.**—Snel undertook, at Talma's suggestion, to discover whether narcosis reduced the resisting power of guinea-pigs. He found that it does so, but only for the time being. Narcosis suspends immunity and annihilates or temporarily suspends the saving normal bactericidal powers. These findings explain post-operative pneumonia. The narcosis annuls for the time being the bactericidal properties of the normal lungs, and the bacteria in them are thus enabled to exert their pathogenic power. During an operation, also, bacteria are more liable to be inhaled than under ordinary circumstances. As the mucosa is not sensitive, coughing is not induced which would expel the saliva, mucus, etc., flowing into the throat. The surgeon, therefore, should assume the responsibility of disinfecting the mouth and throat as scrupulously as the field of operation before undertaking any surgical intervention requiring narcosis. The air to be breathed during the operation should also be as germ-free as possible, especially in case of a tracheotomy. A contrivance to filter the air as it enters the tracheal canula might ward off threatening complications from this source.

60. **Mercury Not a Factor in Tabes.**—In 86 male patients with tabes at Mendel's polyclinic 61 had a history of venereal ulcers, but only 23 had received mercurial treatment of any kind. In 31 female patients only 5 had ever been treated with mercury. The syphilitic infection had been mild or even latent in all cases.

63. **The Campaign Against Tuberculosis.**—Behring asserts that he has not yet attempted on man any therapeutic measures along the line of his immunization of cattle, and thinks that probably a long time will elapse before he can proceed to anything of the kind. He found that a hypersusceptibility to intravenous injection of tubercle bacilli on the part of the cattle, always coincided with agglutinating properties in the blood. He believes that the same parallelism would be observed in case of tuberculin if it were injected into a vein, as described in the last two issues of THE JOURNAL, pp. 1083 and 1178. He thinks that there must be some causal relation between these three phenomena, the agglutinating power of the blood, the hypersensibility to intravenous injection of tubercle bacilli and the reaction to tuberculin. If this assumption be confirmed, then it corroborates Koch's idea that the agglutinating property is an index of the resisting powers of the organism, and would apply also to the susceptibility to tuberculin. It is important, however, Behring remarks, not to confound the diagnostic and prognostic significance of the tuberculin test. The prospect of immunizing human beings by feeding infants with milk from immunized cows is sustained by his experiences with young calves suckled by immunized cows. Recently, for instance, a sucking calf, 14 days old, was vaccinated by his method and no appreciable reaction followed. Other facts that sustain his views are: 1, that several of the immunized cattle kept in infected herds for a year and a half after they had been vaccinated showed no signs of tuberculosis when slaughtered; 2, large numbers of immunized cattle have been slaughtered on stock farms and none has shown signs of tuberculosis; 3, tuberculin tests of 3 immunized cattle one year after vaccination resulted negatively when all the other cattle in the herd reacted positively, and 4, his experiences have been brilliantly corroborated by the results of Thomassen's successful experiments at Utrecht. Behring, in conclusion, qualifies all that has been hitherto accomplished in the campaign against tuberculosis, the sanatoriums, etc., as merely palliative, minor measures, no matter on how extensive a scale they may be organized, even Germany's 57 sanatoriums in active operation, with 27 on the verge of completion, and 4 seaside convalescent homes. The sanatorium movement has accomplished much good, but he proclaims that still more would be realized by isolation of the incurables. The world owes the rarity of leprosy at the present day to the policy of isolating the lepers enforced during the Middle Ages. Model dwelling houses and the strictest hygiene will not prevent tuberculosis infection so long as persons with "open" tuberculosis are housed under the same roof—or, at least, this has been his experience with cattle. Adults are not so much exposed to infection, but newborn infants are so exposed and unprotected that he does not believe it is possible for an infant to avoid infection if kept in a room with a coughing consumptive. He is confident that the young are born free from tuberculosis, but acquire it from tuberculous parents, grandparents or others. He has found that three months may elapse after a calf has been infected before it reacts to tuberculin, while years may pass before clinical manifestations become evident, if they ever do. He has noticed that circumstances depressing the vitality of the cattle were always necessary for the transformation of an animal, merely shown to be infected by the tuberculin test, into a phthisical animal. Cornet, fourteen years ago, demonstrated that the mucous membrane might allow the passage of tubercle bacilli without a local lesion. In harmony with this fact is Behring's experience that in young cattle tuberculosis infection is almost without exception localized in the abdomen, but not in the intestines; it is rather a primary tuberculosis of the glands. He announces that his laboratory research on the immunization of cattle is now at an end, as he has accomplished what he sought. The results have been so invariably successful with animals that he asks: "Shall we not do as much for our children?"

65. **Carcinoma and Diabetes.**—Boas states that there are 6 cases on record in which the patient died in diabetic coma soon after an operation for the removal of a cancer, although for several months or years previously he had been entirely free from sugar. Israel has published 5 cases of carcinoma of the breast in diabetics successfully operated on. In Boas' experi-

ence he has encountered 7 diabetics in 55 patients with carcinoma of the rectum; 2 diabetics with carcinoma of esophagus, and 2 with gastric carcinoma, and 1 of the liver and omentum. All were men. This is a total of 12 cases of carcinoma in diabetics in his total of 366 cases of intestinal carcinoma. In one case an easily operable carcinoma of the rectum in a diabetic, with some sugar and acetone, was extirpated and the patient died in coma three days later. A latent diabetes, he finds, may remain latent after an operation or it may flare up into a fatal coma.

Klinisch-Therapeutische Wochenschrift, Vienna.

69 (IX, 45.) Ueber unschädliche Haarfärbemittel (harmless hair dyes). P. Richter.
70 *Zur Pathologie und Therapie der Influenza. W. Stekel. (Commenced in No. 44.)
71 Nasendouche. A. Thost.
72 (Nos. 46-7.) Ueber Anaemien. H. Senator. Clinical lecture.
73 Combination von Krebs und Tuberkulose im Uterus. H. Szasz.
74 *Advantages of Open Treatment of Obstinate Leg Eczema. S. Behrmann.—Ueber Beinleiden überhaupt und über die Vorteile der zeitweiligen offenen Behandlung hartnäckiger Unterschenkelekzeme.
75 Ueber den Juckausschlag im Kindesalter (strophulus). J. Zappert.
76 (No. 48.) Ueber Pyurie. E. Neusser. Clinical lecture.
77 Ueber die Ausräumung der Nase vom Munde (evacuation of nose through the mouth) her und Freilegung der (exposure of) Basis cranii über der Nase. L. Löwe.
78 *Die intravenose Therapie. V. Patella. (Commenced in No. 46.)
79 Indikationen zu chir. Eingriffen bei Hirnaffectionen (intervention in brain affections). H. Schlesinger.
80 (No. 49.) Ueber die Verwendung der Casuistik in der Urologie. G. Berg.
81 *Kann das Diphtherieserum auch auf andere Krankheiten günstig einwirken? D. Hirsch.
82 Ueber die rectale Untersuchung (examination) in der Gynaekologie. I. Neumann. Clinical lecture.
83 (No. 50.) Iron Splinter in Vitreous for Eight Years. A. Vossius.—Schicksal eines Eisensplitters welcher 8 Jahre im Glaskörper eines 44 jährigen Patienten gesteckt hatte. Clinical lecture.
84 Myxoedem und sporadischer Kretinismus. J. v. Wagner-Jauregg.

70. **Influenza.**—Stekel is convinced that quinin has an almost specific action in influenza, and has known two doses of a gram each of quinin sulphate completely abort an established attack in the first hours. He usually gives .5 gm. of quinin hydrochlorate or sulphate, repeated in half an hour and once more after the same interval, three doses in all. For children under 6 he gives the quinin tan., as many decigrams as the child is years old, two doses. If he does not see the patient until the second or third day, he refrains entirely from quinin medication, as it is seldom effective at this stage. When there is violent frontal sinus headache he gives a combination of .01 gm. morphin hydrochlorate and .5 gm. each of antipyrin and sodium salicylate. Patients must stay in bed until the heart and pulse are normal, in case of influenza. In some instances the influenza assumes a latent or abortive form, but with marked depression, suggesting neurasthenia. One of his patients, after a five-day attack of influenza, was tormented by ideas of suicide for eight weeks, with no cause except the preceding influenza. In these cases the influenza toxins must be eliminated as completely as possible. The influenza bacillus aggravates the action of measles and scarlet fever, but, on the other hand, seems to be antagonistic to certain other infections, possibly the diphtheria bacillus. In one case a patient with gonorrheal cystitis found himself cured after an intercurrent attack of influenza. He suggests that possibly the lesser mortality from diphtheria in late years may be due to the influence of la grippe.

74. **Eczema of the Leg.**—Behrmann advocates open treatment of eczema of the leg with removal of the cause, which may be excessive walking or standing, genu valgum or pes varus, as indirect causes, and hyperidrosis, dilatation of the veins and trauma as the direct. He describes a case in detail to demonstrate the benefits to be derived from staying in bed and refraining from dressings of any kind, merely applying a salve from time to time, zinc at first and later tar. The eczema rapidly healed under this open treatment, and to prevent recurrence the patient wore a tricot stocking leg thereafter. The tricot supplied an imitation of the natural tonus of the parts and kept the pathologic tendency under control. It was left off at night. Behrmann has been very successful with this mode of treatment. He calls attention to the frequency of eczema in persons exposed to tuberculosis.

78. **Intravenous Therapy.**—Patella's article reviews the history and experiences to date of this method of therapeutics, which the Italians have most exploited. Remarkably favorable results have been obtained in threatening general anthrax infection from intravenous injections of sublimate. Corseri saved a woman of 50 stated to be already in extremis; 12 and 10 mg. of sublimate were injected in this case. Experimental intravenous injection of sublimate does not protect against anthrax infection, and intravenous injection of carbolic acid in tetanus, which has been effective in the clinic, is likewise powerless in the laboratory. This is possibly owing to the fact that experimental tetanus is always stormy and rapid, never subacute and gradual, as in the clinical cases benefited by the injections. Colloid silver is most effective in intravenous injection. Patella has tried Landerer's cinnamic acid treatment of tuberculosis by the intravenous route, but derived no benefit from it although his experience confirmed its absolute harmlessness. This was also established in regard to sodium cacodylate and the iodo-iodid solution. Spolverini has obtained wonderful results from the latter in numerous cases of tuberculosis in children, severe rheumatism and tertiary lues, without any local drawbacks. Patella has successfully injected diphtheria serum by way of the veins and also Sclavo's serum in a severe case of anthrax bacteriemia. Kramitzki has reported that intravenous injection of a filtered and diluted warm emulsion of rabies toxin is not only harmless but rapidly renders the animals immune. Silvestri has recently proclaimed that intravenous injection of calcium chlorid is among the most powerful hemostatic measures known. Patella's experience with intravenous injection of iron has not been favorable. In his tests of intravenous injections of sublimate on healthy persons he noted a considerable leucocytosis which lasted for thirty-six hours, thus mobilizing the elements most effective for the struggle with an invading affection. The intravenous sublimate injections were first used for syphilis, and recent writers have reported excellent effects from them in syphilis of the eyes. Renault has cured cases of lues of the central nervous system with the cyanid, which he has also found effective in tabic crises. Tommasoli's success in aborting syphilis by intravenous mercurial injections has been described in these columns. Patella has applied the sublimate injections in 9 cases of articular rheumatism. In one very severe case, rebellious to sodium salicylate, 2 mg. were injected the first day and 2 mg. morning and evening on the four following days. All the severe general and local symptoms entirely vanished after the third injection. The injected vein was indurated after the second injection, but this soon passed away. In 4 other cases, one also rebellious to the salicylate, the results were equally striking. Each injection was followed by a profuse sweat. In another case a man of 32 had a very painful, recurring articular rheumatism. The leucocytes increased from 9,000 to 12,200 after the first injection and general improvement was apparent. The patient refused further injections and returned to the salicylate with recurrence of the symptoms. He allowed later an intravenous injection of 3 mg. of sublimate and improved so rapidly that he could get up in three days. Patella believes that the success of intravenous injection of sublimate depends on the leucocytosis induced. If this is not produced by the first injection, little benefit may be anticipated from continuing in such cases. The intravenous route should not be chosen for general use, but in urgent cases it may prove an invaluable resource, especially in those rebellious to medication by other methods. Intravenous injections are painless. If thrombi develop they are certainly due to defective technic.

81. **Is Diphtheria Serum Effective in Other Diseases?**—Hirsch has derived great benefit from it in cases of eczema, enlarged glands and prurigo, as he describes in detail.

Muenchener Med. Wochenschrift, Munich.

85 (No. 12.) Beitrag zur traumatischen, nicht komplizierten Luxation der Extensoren-Sehnen (tendons) der Finger. A. Becker.

86 *Die Kolpeuryse bei Incarceratio uteri gravidi retroflexi. W. Albert.
87 Is the Addition of Sodium Sulphate to Meats an Adulteration? A. Kraus and H. Schmidt.—Kann in dem Zusatz von schwefligsaurem Natrium zu gehacktem Rindfleisch eine Fälschung erblickt werden? Reply most decidedly in the affirmative.
88 Fall von Nephritis parenchymatosa syphilitica. F. Mühlig.
89 Beitrag zur Cystennieren- (cystic kidney) Exstirpation. O. Seitz.
90 Kurzsichtigkeit (myopia) durch Diabetes mellitus. S. Neuburger. (2 cases.)
91 Zur Behandlung der Perforationen und Zerreissungen der Gallenblase (lacerations of gall bladder). Enderlen. Autoprothesis with Omentum.
92 Geschichtliche Bemerkungen zur Methode des überlebenden Warmblüterherzens (surviving heart of warm-blooded animals). O. Langendorff. Claim for priority.
93 *Ueber die Influenza. W. Ebstein (Gottingen). (Commenced in No. 11.)
94 *Die operative Behandlung des Gebärmutterkrebses (carcinoma uteri). G. Klein.
95 Postgraduatehochschule in New York. C. Beck.
96 (No. 13.) *Zur operativen Behandlung akuter Larynx-Stenosen. Trumpp.
97 Ueber die diuretische Wirkung des Theocins. H. Kramer.
98 *Ein Beitrag zur Frage der Blutregeneration. Schmidt.
99 *Blutuntersuchung (examination of blood) bei Hydatiden-Cysten; lokale und allgemeine Eosinophilie. J. Sabrazes.
100 *Die direkte Perkussion des Epigastrium, ein diagnostisches Hilfsmittel bei Ulcus ventriculi. F. Mendel.
101 Ueber die Bedeutung (importance) der Roentgen-Untersuchung für die praktische Chirurgie. F. Fraenkel.
102 *Bedeutung der nasalen Athmung (breathing) in ihrer Schutz- und Heilwirkung (protection and cure) auf Krankheiten (in disease). G. Trautmann.
103 Ueber isolierten klonischen Krampf des weichen Gaumens (soft palate). L. Roemheld.
104 Fall von Gonokokkenpneumonie. Bressel.
105 Die Gefahr (danger) der Infektion mit Ankylostoma duodenale im Grubenbetrieb. Tenholt.
106 Hans Buchner's Antheil (share) in der Entwickelung (evolution) der Bacteriologie. Gruber.

86. Colpeurysis for Incarcerated Gravid Uterus.—Albert expatiates on the great value of the colpeurynter in case of a retroflexed gravid uterus. He uses it exclusively and has always cured the condition without the slightest trouble. The uterus is gently lifted, as on a cushion, without injury to it or to its contents. In one of his 5 cases the uterus had been incarcerated for three weeks, but was replaced in normal position in two hours by the colpeurynter. If the pregnancy has not passed the fourth month he usually inserts a pessary. After this stage it is not necessary. Lying on the side or abdomen and frequently emptying the bladder will prevent recurrence. He urges the importance of catheterization of the bladder as a routine diagnostic measure in all cases suggesting this condition.

93. Influenza Prophylaxis.—Ebstein insists on the necessity of scrupulous cleanliness to prevent infection of others in case of influenza. The "walking" cases are much more dangerous in this respect than the severe ones in which the subjects stay in bed under proper care. The same prophylactic measures as for tuberculosis should be applied to the sputa. He prefers tonics in treatment, with quinin, although he does not think there is any specific for it. Persons should not visit friends with influenza. The article is a comprehensive historical and bacteriologic study.

94. Operative Treatment of Uterine Carcinoma.—Klein reviews the statistics that have been published to date and deplores that even the best show that only 13.4 per cent. of the patients are permanently cured. The remedy lies in earlier diagnosis. He proclaims that it were better to curette 100 women unnecessarily than allow one woman to succumb to cancer from neglect of curetting. He hails the woman physician as the solution of part of the problem, as he thinks women will allow examination by another woman more promptly than by a man, and not postpone it until too late. He urges stricter regulations against charlatans so that time will not be wasted on them. If women consult the physician earlier, and if they are carefully examined, if necessary with exploratory incision and curette, there is no doubt that the proportion of permanent cures will be much increased.

96. Treatment of Laryngeal Stenosis.—Trumpp illustrates the elastic tubes he uses for intubation. They are made as if with a deep spiral screw thread, which imparts great elasticity.

98. Regeneration of the Blood.—Schmidt proclaims that basophile granulations and polychromatophilia usually appear during convalescence from anemia, at a time when the general health is improving. This is true not only of toxic but also of traumatic anemia, due to loss of blood. The results of experiments with rabbits also all point to the same thing, namely, that the basophile granules are derived from nuclei and are thus a sign of regeneration of the blood, and that polychromasia of the red corpuscles results from the mixing of the dissolved substance of the nuclei with the hemoglobin, whether this dissolving occurs directly in the nuclei or a stage of basophilous granulation intervenes. Both the basophile granulated and the polychromatic reds are young forms of blood corpuscles and are thus a sign of regeneration of the blood. In a case he had occasion recently to examine, the blood was normal on the day of a severe accident entailing profuse loss of blood to absolute pulselessness. On the sixth day afterward polychromatic and basophile granulated red corpuscles were numerous and remained so for three weeks. An increase in the hemoglobin of 50 to 75 per cent. paralleled these signs of regeneration.

99. Eosinophilia with Hydatid Cysts.—Sabrazès investigated the blood of 7 patients with hydatid cysts and found that the echinococci have a remarkable positive chemotactic attraction for the eosinophiles. In one case the eosinophiles had penetrated into the cyst, and also surrounded it with a concentric layer nearly 1 cm. thick. The almost exclusive presence of eosinophiles in the cyst fluid suggested the diagnosis, confirmed by the operation. The leucocytosis was 11,160 and 15,500 in the cases of large cysts in the liver, and was 17,360 with multiple cysts in the abdomen. The eosinophiles were prominent in every case, and usually nine or ten times the physiologic average. If the membrane of the cyst is partially degenerated the eosinophiles penetrate into the cyst and, associated with Charcot-Leyden crystals, serve to differentiate the lesion.

100. Differentiation of Gastric Ulcer by Percussion.—Mendel states that lightly tapping the epigastrium with the percussion hammer is not painful to anyone under normal conditions, but in case of an ulcer, a certain region, usually circular in outline, is found to be extremely painful when tapped. It is surprising how rapidly this circular sensitive area diminishes in size when proper treatment is instituted. As this can not be due to the healing of the ulcer in so brief a time, it is probably to be explained by the subsidence of the surrounding zone of inflammation as the stomach is rested. It is possible by this percussion not only to differentiate a gastric ulcer wherever located, but also to supervise its healing and be able to tell with precision when the last trace of it has disappeared. The same measure and deductions apply in the same way to ulcer in the duodenum. In every case of duodenal ulcer a sharply circumscribed painful area will be found by this percussion on the right, close to the linea alba, somewhat below the center of a line from the costal arch to the umbilicus. It is generally about the size of a half dollar, and like the similar area in case of gastric ulcer, gradually shrinks in size and finally disappears under appropriate treatment. Other lesions in the abdomen and epigastrium will be accompanied by an area of pain on percussion, but none of the others shows such a sharply circumscribed sensitive area as ulcers in the stomach and duodenum. The percussion never caused the slightest harm, but in case of a recent hemorrhage caution would be advisable. The area of pain does not necessarily locate the ulcer, but it always occurs at the same place.

102. Importance of Nose Breathing.—Trautmann reports a case in which the operative restoration of nose breathing was followed by the spontaneous cure of severe and previously intractable throat lesions. He warns against curetting and other destructive measures on the nasal passages, as they deprive the nose of its natural protective properties and render it as defenseless as the passages below.

Lo Sperimentale, Archivio di Biologia norm. e patol., Florence.

107 (LVII, 1.) Sulla tossicità del sangue (toxicity of blood) nell' ipertermia sperimentale. E. Ravenna and P. Minassian.
108 Sui contenuti lecitinico del fegato, dei reni e del cuore (lecithin in liver, kidneys and heart) nella degenerazione adiposa sperimentale. G. Lusena.
109 Contributo alle lesioni prodotte dal fungo raggiato (actinomycosis). V. Remedi.
110 *Ricerche sperimentali sulla peristaltica intestinale. I. Simon.

110 **Intestinal Peristalsis.**—From a series of experimental investigations, the methods of which are described, and from a general discussion of the literature, Simon reaches the following conclusions: 1. In the small intestine the direction of the movement is always peristaltic. There is no antiperistalsis. 2. The movement of peristalsis in the small intestine is more rapid in the upper portion than in the inferior, both in physiologic and pathologic conditions, and is slowest in the large intestine. 3. The velocity of movement varies according to the nature of the food. 4. The introduction of food into the stomach and stimulation of the rectum and small intestine are conditions that cause the phenomena of inhibition of intestinal peristalsis.

Cronica Med. Mexicana, Mexico.

111 (V, 6.) Etiologia de la escoliosis. C. Tejeda.—Accepts static, trophic and nervous factors in etiology.
112 Algunas consideraciones sobre la enfermedad de Addison, sugeridas por la observacion de 6 casos de tuberculosis de las capsulas supra-renales. F. Ocaranza.
113 (No. 7.) El tifo del ganado bovino (study of cattle diseases in Mexico). M. G. Aragon.
114 (Nos. 8-9.) Algunos apuntes sobre (notes on) quinimetria. E. G. Puente.
115 (No. 10.) Notes on Yellow Fever at Orizaba. M. P. Colmenares.—Apuntes para el estudio del vomito en Orizaba.
116 *Consideraciones diagnosticas y operatorias acerca de la hernia diafragmatica. F. Hurtado.
117 La reaccion febril y su tratamiento. E. P. Lamicq.
118 Fiebres palustres. Tratamiento dosimetrico y pambotano (calliandra grandiflora). E. L. Abogado. (See 121 below.)
119 Vomiting in Pregnancy. Ibid.—Los vomitos del embarazo y su tratamiento.
120 (No. 11.) Dispnea y dolor costal. E. L. Abogado.
121 El tlacoxiloxochiti (calliandra grandiflora). E. L. Abogado. (See 118 above.)
122 *Study of Deformed Pelves in Mexico. J. Duque de Estrada.—Estrechamientos pelvicos.
123 (No. 12.) Una forma frustanea de enfermedad de Basedow. F. Ocaranza.
124 La antisepsia de las vias urinarias por la medicacion interna. E. L. Abogado.
125 (VI, 1.) *Caso de tetanos traumatico curado por la pilocarpina. D. Garcia.
126 (No. 2.) La aplicacion de los rayos X al estudio de la angeiologia. S. Garcia.
127 La gota y su tratamiento dosimetrico. E. L. Abogado.
128 La inflamacion considerada desde el punto de vista de la resistencia organica. L. S. Viramontes. (Commenced in No. 1.)
129 Afecciones meningeas agudas, 2 curaciones. E. L. Abogado.

116. **Hernia of the Diaphragm.**—Hurtado's patient was a woman of 50, five months pregnant, who exhibited symptoms of acute intestinal occlusion, suggesting internal hernia. There was no fecal vomiting and the conditions were masked by preceding administration of vigorous purgatives which had failed to purge. An artificial anus was made in the cecum, which relieved the conditions, but nothing was found to explain the occlusion. Abortion followed the next day. The opening into the abdomen had been small, as the surgeon feared the effects of a laparotomy. The patient was free from symptoms after the abortion, except that an attempt to give an anesthetic, in order to explore conditions further, caused dyspnea and was abandoned. Intense pain suddenly developed in the epigastrium and left hypochondriac region, and the patient died in a few hours. The autopsy revealed traces of old pleurisy of the diaphragm, with adhesions and a perforation resulting from an old ulceration. Through this hole nearly 60 cm. of the intestine, including the transverse colon, had irrupted into the thorax. Four years before she had complained of occasional attacks of dyspnea, which had gradually become less intense and less numerous, but still recurred every one to three weeks. She was unable to sleep on the left side, as this position caused dyspnea and she had also complained since this time of a constant pain in the left side at the seventh and eighth ribs, on the axillary line. Pain from this point radiated through the left lung. This pain was always most marked in the afternoon, after eating heartily or after an emotion. The present illness commenced with an exacerbation of this pain and constipation, with occasional vomiting, not fecal. No pain in abdomen. A blister was applied to the spot and vigorous purgatives given, but without benefit. Two other cases of hernia of the diaphragm are described, both traumatic, and, in conclusion, E. Fletcher Ingals' article on the subject in THE JOURNAL, XXXVI, p. 1770, is reproduced in full in Spanish.

122. **Deformed Pelves in Mexico.**—Duque de Estrada is chief of the maternity at Mexico, and reviews his extensive experience in this monograph, which is continued as an illustrated supplement throughout the year. He does not find the general type of pelvis different from that of Europe. When a pelvis is deformed it is usually the result of imperfect development, and this condition is frequent. He has never seen elsewhere, however, a contracted pelvis, such as some of the specimens he illustrates, in which the transverse diameters were unusually short but only in the lower part of the excavation. He suggests the term "infundibuliform" for this variety. He also notes that he has never found traces of rachitis in the pelves he has examined, and, in fact, he remarks, there are no clinical records of the existence of this affection in Mexico. He ascribes the deformities observed to defective development from the lack of hygiene, the sedentary and confined life of some, hard work of others, early marriages before the skeleton is formed, and certain occupations, such as making tortillas, washing, etc., followed from girlhood. The pelvis was contracted at the inlet in .58 per cent., but a contracted outlet was much more frequent.

125. **Pilocarpin in Traumatic Tetanus.**—Garcia attributes the recovery of a patient in a case of severe strychnin intoxication to his administration of pilocarpin. The symptoms were alleviated at once after the sweating and salivation induced by it. He has applied the same treatment recently in a case of intense traumatic tetanus, injecting 2 cg. of pilocarpin and administering the same amount by the mouth, supplemented by 1 gm. of sulphonal at night. This was continued intermittently, the symptoms diminishing gradually and always showing a slight marked improvement after each dose of the pilocarpin, which was generally given morning and evening at first. By the thirty-third day the movements were quite normal.

Gazeta Medica Da Bahia, Brazil.

130 (XXXIV, 2-3.) Os novos processos de cura radical das hernias inguinaes. J. Martins.
131 Evolution of Medical Education. D. Ramos.—Desenvolvimento do ensino medico.
132 Ibid. A. Britto.
133 (No. 4.) Servico Medico-legal de Antopsias. A. Pelxoto.
134 (No. 5.) Das vegetaciones adenoides, seu valor clinico e da necessidade de uma intervençao radical. R. de Azevedo.

Revista de Med. y Cirugia, Havana.

135 (VIII, 1.) Caso de sarcoma del tejido (tissue) celular pelviano ocupando el espacio retro-peritoneal del fondo de saco de Douglas. L. Ortega.
136 *Intoxicacion alimenticia. G. M. de la Torre.
137 (No. 2.) Diplococcus flogogenus pleuro-pulmonaris. L. Placencia.
138 (No. 3.) *Fiebre paratifoidea. A. Agramonte.
139 (No. 4.) Ataxia cerebelosa experimental. R. P. Vento.
140 (No. 5.) La tecnica de la nefropexia, con referencia especial de un metodo para fijar el rinon en su posicion normal. R. Gulteras (New York). (See p. 1166.)

136. **Food Intoxication.**—Torre has been investigating the cause of a febrile indigestion noticed in children after eating certain kinds of sweets, and thinks that it is due to the toxic action of stale eggs.

138. **Paratyphoid Fever.**—Agramonte reports that paratyphoid fever occurs in Cuba and that the clinical picture is identical with that of typhoid fever except for the absence of sero-reaction and the results of cultures. Typhoid fever, therefore, he remarks, is not a specific entity, as other bacilli besides Eberth's are able to produce it. In the case he describes in detail he is inclined to admit a double infection, true typhoid with the paratyphoid. The first two weeks the symptoms were those of ordinary typhoid, but from the seventeenth to the twenty-fourth day there was marked intermittency in the temperature, with a difference of several degrees between the morning and evening. Repeated examination of the blood for malaria was always negative and there were no signs of endocarditis. The sero-reaction was very faint, but agglutination with Gaertner's bacillus was pronounced, and one of the two paratyphoid bacilli isolated from the feces resembled this bacillus. He reviews the history of paratyphoid, and notes that the intermittent character of the temperature after the twelfth or fifteenth day was noted in nearly all the 46 cases on record.

New Patents.

Patents of interest to physicians, March 31 and April 7:

724382. Tubular metal crutch. Joshua Conn, Dunkirk, N. Y.
723847. Lifter and conveyer for invalids. Priscilla W. Dohoney, Columbia, Ky.
724280. Hot water bag. John H. Holt, Washington, D. C.
724186. Electric apparatus for therapeutic work. Howard Jackson, Newton, Mass.
724014. Truss. Manuel E. Jasper, Wiarton, Ont., Can.
724034. Hemostatic forceps. Wm. L. Nuttall, Newcastle, Ky.
724125. Combined cabinet and examining or operating table. Gilbert H. Prindle, Washington, D. C.
724046. Instrument for intubation of the larynx. Frank E. Sampson, Creston, Iowa.
723929. Aural instrument. Richard M. Sahffer, Baltimore.
724215. Photochemical and electrotherapeutic apparatus. Albert E. Sterne, Indianapolis.
724808. Surgical truss. Blanchard Chamberlain, Bellefontaine, Ohio.
724812. Device for correcting facial defects. Anna C. Cloud.
724680. Inhaler. Alonzo Dow, Wooster, Ohio.
724889. Herbal forceps. John H. Kochenderfer, Gallon, Ohio.
724913. Syringe nozzle. John T. Montgomery, Charleston, Ill.
724500. Truss. Alfred A. Raymond, Chicago.
724522. Vaccinating needle. Onesime Thomas, Paris.
724643. Hypodermic syringe case. Benjamin T. Winchester, Baltimore.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

UTERINE AND TUBAL GESTATION. A Study of the Embedding and Development of the Human Ovum, the Early Growth of the Embryo, and the Development of the Syncytium and Placental Gland. By Samuel Wyllis Bandler, M.D., Instructor in Gynecology, New York Post Graduate Medical School. Illustrated by 93 Drawings. Cloth. Pp. 159. Price, $1.50 net. New York: Wm. Wood & Co. 1903.

U. S. DEPARTMENT OF AGRICULTURE, Bureau of Animal Industry—Bulletin No. 44. Infectiveness of Milk of Cows Which Have Reacted to the Tuberculin Test. By John R. Mohler, A.M., V.M.D., Chief of Pathological Division, Bureau of Animal Industry. Paper. Pp. 93. Washington: Government Printing Office. 1903.

MUCO-MEMBRANOUS ENTERO-COLITIS. Symptoms, Complications, Kthology and Treatment. By Maurice De Langenhagen, M.D., Consulting Physician at Polombieres, Vosges, France. Cloth. Pp. 115. Price, $1.25. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

REPORT OF THE GOVERNMENT LABORATORIES OF THE PHILIPPINE ISLANDS for the Year Ended Aug. 31, 1902. (From the Report of the Philippine Commission.) Bureau of Insular Affairs, War Department. Paper. Pp. 582.

HOW TO BE SUCCESSFUL AS A PHYSICIAN. Heart-to-Heart Talks of a Successful Physician and His Brother Practitioners. Cloth. Pp. 123. Price, $0.50. Meriden, Conn.: The Church Publishing Co. 1902.

TWELFTH REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF MAINE for The Two Years Ending Dec. 31, 1901. Cloth. Pp. 300. Augusta: Kennebec Journal Print. 1902.

PROCEEDINGS OF THE NEBRASKA STATE MEDICAL SOCIETY. Thirty-fourth Annual Session, 1902. Cloth. Pp. 361. Lincoln: Western Medical Review Publishing Co.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending April 18:

Surgeon H. N. T. Harris, detached from the *Monocacy* and ordered to the *Glacier*, at Manila, P. I.

Surgeon N. H. Drake, detached from the *Solace* and ordered to the *New York*, as fleet surgeon of the Pacific Station.

Surgeon A. C. H. Russell, detached from the Naval Museum of Hygiene and Medical School, and ordered to the *Newark*, as fleet surgeon, South Atlantic Station.

Surgeon F. J. B. Cordeiro, detached from the Naval Training Station, Newport, R. I., and ordered to the *Solace*.

Surgeon G. H. Barber, detached from the *Monongahela* and ordered to the Training Station, Newport, R. I.

P. A. Surgeon C. D. Langhorne, detached from the Naval Hospital, Port Royal, S. C., and ordered to the *Monongahela*.

Marine-Hospital Changes.

Official list of the changes of station and Duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended April 16, 1903:

Assistant Surgeon-General L. L. Williams, granted leave of absence for eight days from April 11.

Surgeon Irwin Fairfax, to proceed to Washington, D. C., for special temporary duty.

Asst.-Surgeon H. C. Russell, relieved from temporary duty at the Immigration Depot, and directed to rejoin his station at Stapleton, N. Y.

Asst.-Surgeon W. C. Billings, to proceed to Quebec, Can., for duty in the office of the U. S. Commissioner of Immigration.

Asst.-Surgeon B. S. Warren, granted leave of absence for five days from April 16.

Asst.-Surgeon A. D. Foster, to proceed to Southport, N. C., and assume temporary command of the station at that port during absence on leave of Asst.-Surgeon B. S. Warren.

A. A. Surgeon John Devereux, granted leave of absence for twenty-three days from April 2.

A. A. Surgeon A. P. McConnell, granted leave of absence for three days from April 20.

A. A. Surgeon E. F. McConnell, granted leave of absence, on account of sickness, for 30 days.

A. A. Surgeon A. W. Slaughter, granted leave of absence for six days from May 5.

A. A. Surgeon R. T. Walker, granted leave of absence for thirty days from April 8.

BOARD CONVENED.

Board convened at Washington, D. C., April 15, 1903, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General H. D. Geddings, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended April 18, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, April 4-11, 2 cases.
California: San Francisco, March 29-April 5, 10 cases.
Colorado: Denver, March 28-April 4, 27 cases.
Florida: April 4-11, DeSoto County, 28 cases; Duval County, Jacksonville included, 6 cases.
Georgia: Atlanta, March 4-April 15, 30 cases; Lumpkin, April 7, 6 cases.
Illinois: Belleville, April 4-11, 1 case; Chicago, March 28-April 11, 37 cases, 3 deaths; Galesburg, April 4-11, 2 cases.
Indiana: April 4-11, Evansville, 2 cases; Indianapolis, 4 cases.
Kansas: Wichita: April 4-11, 3 cases.
Louisiana: New Orleans, April 4-11, 5 cases (2 imported), 2 deaths.
Maine: Biddeford, April 4-11, 1 case.
Maryland: Baltimore, April 4-11, 1 death.
Massachusetts: April 4-11, Fall River, 1 case; Lowell, 3 cases; Northampton, 1 case.
Michigan: April 4-11, Ann Arbor, 1 case; Detroit, 7 cases; Grand Rapids, 4 cases; Port Huron, 1 case.
Mississippi: Natchez, April 4-11, 1 case.
Missouri: April 5-12, Kansas City, 2 cases; St. Louis, 5 cases.
Nebraska: Omaha, April 4-11, 2 cases.
New Hampshire: April 4-11, Manchester, 7 cases; Nashua, 5 cases.
New Jersey: Newark, April 4-11, 1 case.
New York: Binghamton, March 28-April 4, 1 case, imported; Buffalo, April 4-11, 2 cases; Rochester, March 31-April 14, 16 cases, 1 death.
Ohio: Dayton, April 4-11, 3 cases.
Pennsylvania: Altoona, March 28-April 11, 5 cases; Butler, April 4-11, 1 case; Carbondale, March 31-April 7, 1 case; Johnstown, April 4-11, 1 case; Philadelphia, March 28-April 11, 43 cases, 7 deaths; Pittsburg, April 4-11, 29 cases (2 imported), 3 deaths; Williamsport, April 4-11, 1 case.
Tennessee: Memphis, March 28-April 11, 13 cases; Nashville, March 28-April 4, 2 cases.
Utah: Salt Lake City, March 28-April 11, 17 cases.
Wisconsin: Milwaukee, March 28-April 11, 3 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 14-28, 13 cases.
Belgium: Antwerp, March 14-21, 2 cases, 1 death; Brussels, March 14-28, 6 deaths.
Brazil: Rio de Janeiro, March 6-13, 5 deaths.
Canary Islands: Las Palmas, March 7-21, 44 cases.
Colombia: Barranquilla, March 15-22, 2 deaths.
France: Roubaix, March 1-31, 1 death.
Great Britain: Dublin, March 14-28, 33 cases, 1 death; Hebburn-on-Tyne, March 14-21, 1 case; Leeds, March 14-28, 26 cases; Liverpool, to March 28, 68 cases, 7 deaths; London, March 21-28, 5 cases; Manchester, March 21-28, 18 cases, 1 death; Newcastle-on-Tyne, March 14-21, 28 cases; Nottingham, March 7-28, 11 cases; Sheffield, March 7-21, 4 cases; Walker-on-Tyne, March 14-21, 2 cases; Wallsend-on-Tyne, March 14-21, 2 cases.
India: Bombay, March 3-17, 157 deaths; Calcutta, Feb. 28-March 14, 1 death; Madras, Feb. 28-March 6, 1 death.
Mexico: City of Mexico, March 22-29, 7 cases, 4 deaths.
Netherlands: Flushing, March 21-28, 1 case.
Russia: Moscow, March 14-21, 4 cases, 1 death; Odessa, March 14-21, 6 cases, 1 death; St. Petersburg, March 14-28, 169 cases, 9 deaths; Warsaw, March 14-21, 3 deaths.
Turkey: Alexandrette, March 14-21, 3 cases, 1 death; Constantinople, March 15-22, 1 death; Smyrna, March 1-8, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, March 6-13, 38 deaths.
Colombia: Panama, March 26-April 2, 4 cases, 1 death.
Ecuador: Guayaquil, March 14-21, 4 deaths.
Mexico: Vera Cruz, March 28-April 11, 12 cases, 2 deaths.

CHOLERA—INSULAR.

Philippine Islands: Provinces, Feb. 14-21, 172 cases, 117 deaths. Not previously reported, 953 cases, 756 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Feb. 28-March 14, 159 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Feb. 14-21, 2 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, March 6-13, 1 death.
China: Hongkong, Feb. 14-28, 15 cases, 15 deaths.
India: Bombay, March 3-17, 2,300 deaths; Calcutta, Feb. 28-March 14, 1,574 deaths; Karachi, March 8-15, 190 cases, 169 deaths.
Mexico: March 8-22, Siqueros, 3 cases, 2 deaths; Villa Union, 3 cases, 1 death.